An assessment of the whitewater recreational values of West Coast rivers – whitewater kayaking

Andy England

LEaP Research Paper No. 2
January 2011

Land Environment & People

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ISSN 2230-4207 (Online)
ISBN 978-0-86476-273-3 (Online)

Lincoln University, Canterbury, New Zealand

Acknowledgements

My hosts, Ian Wightwick of DoC and Ken Hughey of Lincoln University, were instrumental in developing this project and very understanding; Liam Anderson at DoC created all my maps and it was great to work with Trevor Johnston. The staff at the RSNZ[1] have been a tremendous support and the scheme itself is amazing: as a teacher, I feel rejuvenated, upskilled and satisfied to have applied my Geography academic background. Shayne Galloway of the University of Otago freely offered great support, as did Kay Booth of Lindis Consulting, whilst Doug Rankin from Whitewater New Zealand shared his depth of experience. Mary Trayes at the West Coast Regional Council was positive and helpful.

Sony New Zealand supplied me with a laptop, camera, GPS and voice recorder. Pyranha Mouldings provided my kayak and Palm Equipment provided my outer wear, with Hydroscapes Safety Gear providing my lifejacket.

[1] The **New Zealand Sciences Mathematics and Technology Teacher Fellowship** Scheme is funded by the New Zealand Government and administered by the Royal Society of New Zealand

To get down the rivers safely I relied on good teams, and all of these people waited patiently for me while I conducted my work; Eddie Murphy and my brother Kevin particularly.

[1] The **New Zealand Sciences Mathematics and Technology Teacher Fellowship** Scheme is funded by the New Zealand Government and administered by the Royal Society of New Zealand

Contacts:
Email: leap@lincoln.ac.nz
Web: http://www.lincoln.ac.nz/leap

Series URL: http://hdl.handle.net/10182/3410

Summary

This report describes a data resource for decision makers in areas of the West Coast where whitewater kayaking occurs.

Throughout 2010 I collected and processed data for my Royal Society of New Zealand Awarded Teacher Fellow project "An Assessment of the Whitewater Recreational Values of West Coast Rivers". The data was collected under the supervision of Ian Wightwick, Technical Support Supervisor Visitor and Historic Management, Department of Conservation (DoC), Hokitika, and Ken Hughey, Professor of Environmental Management, Department of Environmental Management, Faculty of Environment, Society & Design, Lincoln University.

I describe and evaluate the methodologies chosen. I discuss the meaning of value in a recreational context. I summarise the key learning points from this research and suggest areas for further work. I describe how to use the data resource, which is set out in the Appendices and attached in electronic form on a DVD. The resource contains:

- River trip reports for 31 rivers. These reports cover logistics; descriptions of whitewater technicality, river scenery and wilderness feel; issues for land managers and rescue managers; a general river summary; representative photographs and results from the West Coast Whitewater Kayaking Survey 2010 with commentary
- Photo galleries for 31 rivers. The jpg photos are mainly geotagged (the latitude and longitude of where the photograph was taken can be found in the file metadata)
- Reports from the West Coast Whitewater Kayaking Survey 2010, including my commentary. The reports cover overall values associated with rivers; graphs of the specific ratings of West Coast rivers; open descriptions of the value of West Coast rivers to survey respondents and a demographic profile of the survey respondents.

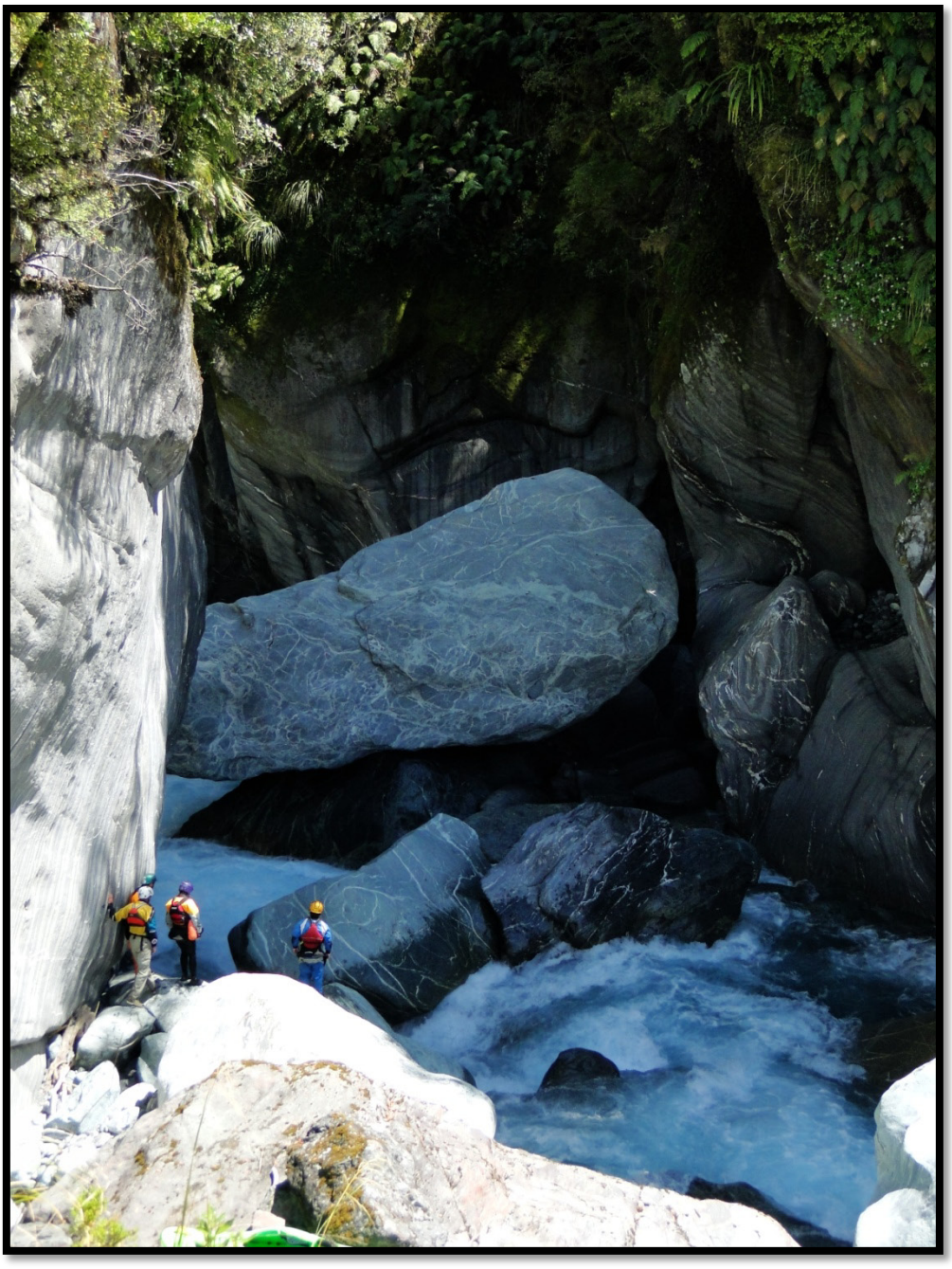
The research shows that, as a whole, the rivers of the West Coast region are the most highly valued in New Zealand and amongst the most highly valued in the world by whitewater kayakers. To whitewater kayakers around the world, the West Coast region is characterised by its rivers and its rivers are characterised by their high levels of challenge, scenery and wilderness.

In comparison to other regions of NZ and the world, the West Coast region has a very high density of rivers that offer great whitewater challenge, inspiring river scenery and a strong wilderness feel. Added to this are such qualities as cleanliness and clarity of water, a range of access arrangements including helicopter access, geographic closeness of rivers meaning low travel times between rivers, and a wider regional experience that offers additional social attractions.

That so many rivers of the West Coast are valued so highly does not belittle their assessment, but truly represents their remarkable qualities. It makes it impossible to segregate a common set of top rivers, but a general trend is that northern Westland has the highest concentration of top rated rivers for whitewater challenge, with very high scores for scenery and wilderness; while northern Buller and South Westland have small

concentrations of rivers top rated for wilderness and scenery with high ratings for whitewater challenge.

The main whitewater kayak users of West Coast rivers are highly specialised and experienced, which reflects and is reflected by the high proportion of more challenging rivers, yet the region is also held in high regard as a destination to aspire to by users of lower ability. Of interest is the demographic profile of survey respondents, showing that most whitewater kayakers on the West Coast are male, of widespread ages, educated to bachelor's degree or beyond, professionally employed with incomes above national averages.



Picture 1: a humbling experience, deciphering the puzzle of entering Omatane Canyon on the Hokitika river.

Contents

Notes

1 Introduction

1.1 Author's background

I came to the West Coast of New Zealand in 1994 as part of a whitewater kayaking 'World Tour'. I knew from then I wanted to return and did so in 2001, settling permanently. I have kayaked whitewater around the world since 1985. I have a passionate connection with New Zealand's West Coast rivers, in particular their upper reaches, that I could write about lyrically. I've also watched as many of my friends from Scotland and other parts of New Zealand have settled here over the last few years, for much the same reasons as me: we love the rivers and then found fantastic communities which cement our connection and commitment to the region.

I have a BSc in Physical Geography from the University of Aberdeen, Scotland, and a postgraduate teaching qualification from the University of Edinburgh, Scotland. I taught Geography in Aberdeen for nearly 5 years. I am currently a full time teacher of Geography and Deputy Principal at Greymouth High School.

I am a member of the Tasman Whitewater Search and Rescue team and have been used as an expert witness for the New Zealand Police in cases of river fatalities. I have been involved in advocacy for river conservation on the basis of recreational use.

1.2 Context and previous work

It wasn't until 2005 when the Arnold River was threatened with dewatering for hydro electricity generation, and I became involved in the kayakers' defence of that river, that I realised how little written material was available about kayakers' use of rivers. Advocates had to scrabble for evidence to support their arguments, and learn what was important to decision makers. Recreation consultants used Graham Charles' Guide to New Zealand Whitewater in a way for which it was never intended, referred to Egarr and Egarr's work of 1981 and the New Zealand Canoe Association's (NZCA) river survey of 1991, but the world of whitewater kayaking had changed so much since then that their quotes were misleading, taken so far out of the modern context.

The West Coast Regional Council, along with the Energy Efficiency Conservation Authority (EECA) published a "Renewable Energy Assessment" in 2008 which clearly stated that West Coast rivers were an enormous source of potential hydro generation and that this was the most favourable method for power generation on the West Coast. For anyone who cares about the natural wonders of these rivers, it was dreadful reading. But the paper's intention was to set out as fact what the resource base was, and that was what inspired me to research and present a recreation assessment.

The aim of my project, "An assessment of whitewater recreational values of West Coast rivers" was to create a current database of what West Coast rivers mean to whitewater recreational users. These users could cover fishing, rafting, tubing, kayaking, canoeing and

even “bugging”, but in my work I focus on kayaking/canoeing. This resource has been developed for use by Department of Conservation decision makers but is available to anyone who has an interest in the management of West Coast rivers for the well being of its people.

Picture 2: kayaking in 2010 involves shorter and more manoeuvrable kayaks enabling more difficult whitewater to be navigated more safely; Kevin England on the Arahura.

This report is not an academic paper. It is based on a range of data that will be described openly and are open to scrutiny. The overall aim of this report is simply to provide the Department of Conservation – and anyone else who may need user data on West Coast rivers – with a set of current data about whitewater kayakers/canoeists. One particular challenge was to take subjective views and create an objective resource. I have not made recommendations as I see this data set’s purpose as contributing to decision makers’ tools.

I spent some time thinking about values and significance tests. In this context, “value” does not refer to economic or dollar value, but to the aspects of an environment that are important to people. I have not offered an overall value as I do not think that one can be given accurately, even for such a specific user group as ‘whitewater kayakers’. I do, however, speculate on the overall value of West Coast rivers in the conclusions section and try to define my view of the factors that combine to define ‘value’ or ‘significance’ in relation to whitewater kayakers’ use of rivers.

There has been academic work done in this area, and I drew notably on three pieces: “A Significance Assessment Method for River Values” (Ken Hughey, Kay Booth, Neil Deans, and Mary-Anne Baker, 2009), “New Zealand Recreational River Use Study: Specialization,

Motivation and Site Preference" (Shayne Galloway, 2008) and the "NZCA River Use Survey" (New Zealand Canoeing Association, 1991).

Hughey *et al's* 2009 River Values Assessment Method (RiVAS) involves expert groups allocating scores which are then processed using multi criteria analysis to produce an overall ranking for the rivers in a region. The ranked list is then broken into overall importance levels. This method has the strength of being relatively easy to repeat by regional councils, for which it is aimed, and applicable across various river-based activities. In my opinion, the numerical base for the system offers a limited insight into a region's river activity, albeit useful and a vast improvement on the knowledge that usually exists in organisations such as regional councils. Where applied, it is also useful in that it is current and (if staff are involved directly) helps staff to increase their understanding of relevant issues for river users.

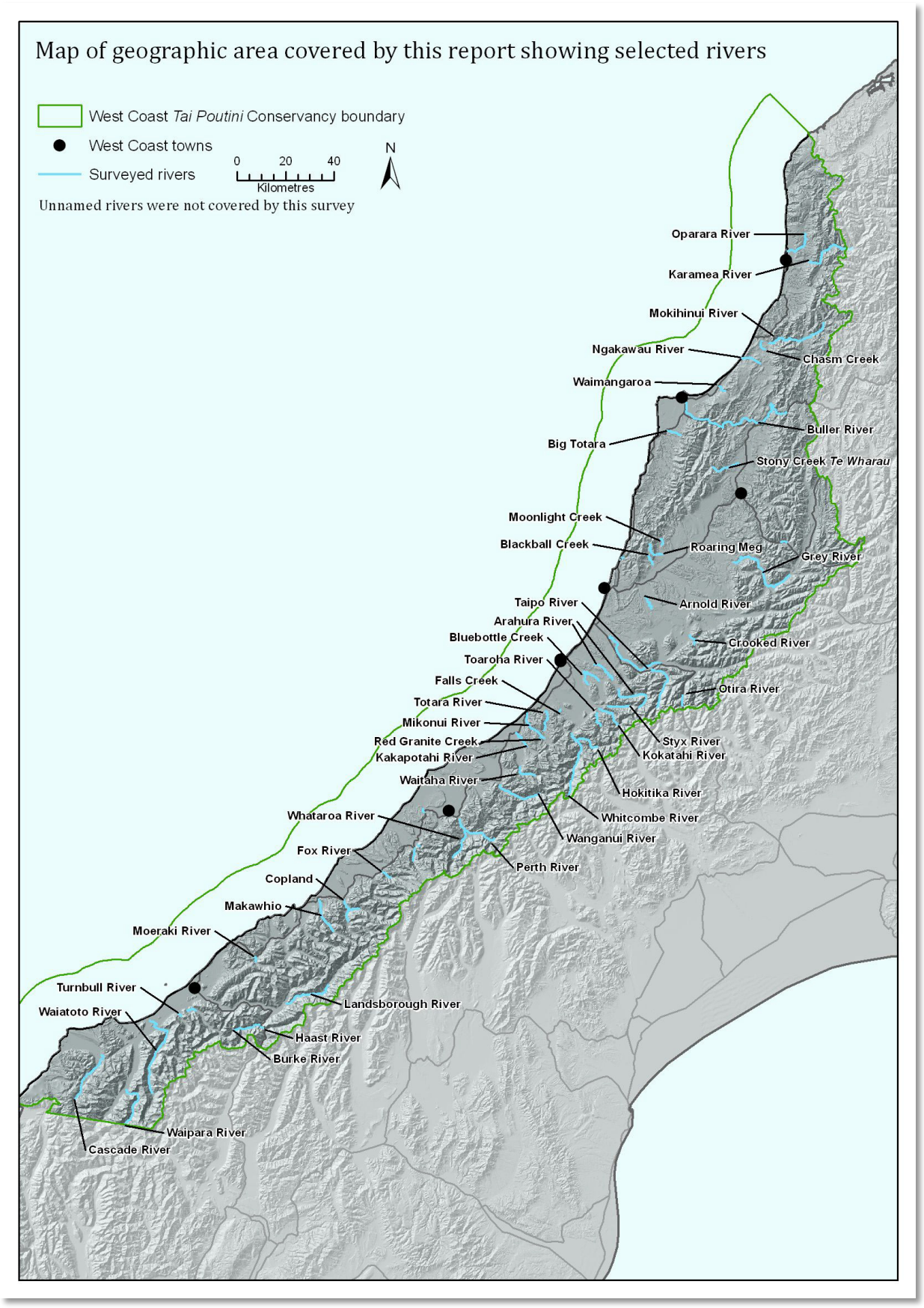
Galloway's New Zealand Recreational River Use Study is a substantial and current offering that helped to affirm the focus of my questioning in the West Coast Whitewater Kayaking Survey. Galloway asked users about the aspects of their experience that they valued: social aspects are highly important, as well as water qualities, scenery and wilderness. For the purposes of my study - for land managers – I judged social aspects to be intrinsic and largely beyond the direct control of land managers.

The NZCA River Use Survey and the current Whitewater New Zealand Conservation Policy refer to four factors as being the most important for whitewater kayakers: closeness to where one lives, scenic beauty, wilderness feeling and degree of kayaking challenge. In the 1991 survey, it was also asked what people considered the overall importance of a river to be.

Picture 3: social factors are important to whitewater kayakers but beyond the direct control of land managers; Dave Ritchie and Eddie Murphy after the Waipara.

1.3 Geographic area covered by this report

Map 1 Boundaries of this study



2 Data gathered 2009-2011

There are many ways to assess recreational value. I placed importance on seeing and experiencing the West Coast's rivers - and therefore the recreational experience – myself. This allowed me to:

- view the rivers and their environments with values assessment in mind
- observe kayakers' behaviour informally, with values assessment in mind
- collect logistical data directly
- make a geotagged photographic record
- compile current trip reports with notes for a range of potential users
- publicise to current river users the survey I had planned for winter.

To do this, I liaised with known and tourist kayakers to arrange teams for river trips. I then took part as a team member for the trip, although I did brief others about my work which had an impact on the dynamics of the trip (mainly by slowing progress as I got out of my boat to take photographs and check locations). I developed a specific safety plan. Given the seasonal pattern of river use and tourist arrivals, I covered as many rivers as possible in the late summer and autumn of 2010, then accepted a delay until spring 2010.

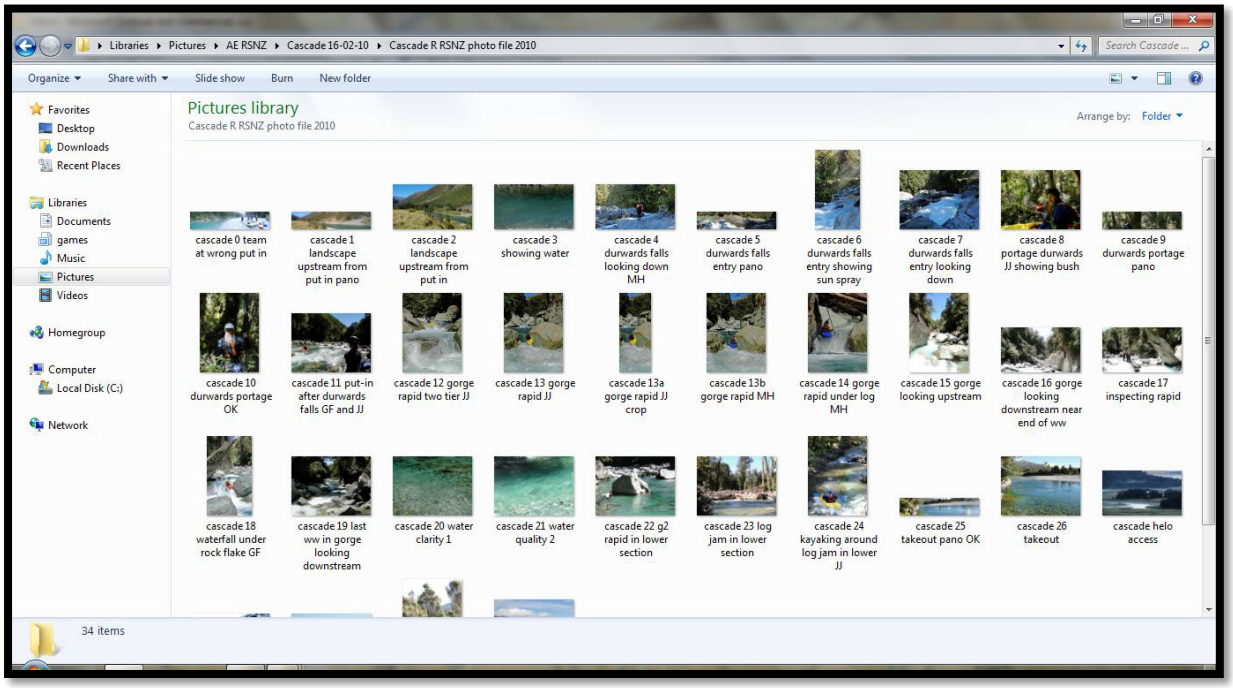
There was also a need for information about and from other users, which it was decided to gather using an online survey.

Picture 4: helicopter access is very much part of the attraction of kayaking on the West Coast, and in many cases the only way to access rivers. Five minutes of noise, then you are on your own with only one way home. Kokatahi Helicopters.

2.1 Geotagged photos

Photographs were taken with the aim of representing the character and key features of each river, from a whitewater kayaker's eye. This covers water qualities such as colour and clarity; river landscape features such as boulders and gorges; valley landscape features such as the wider view from the river. I also took photos of the kayaking activity itself, aiming to exemplify the typical style of kayaking for that river.

I mainly used a Sony HX-1 digital camera. Where possible, the photos were geotagged (latitude and longitude stored as metadata) using a Sony GPS. This system updates and records location using as many satellites as possible every 15 seconds, offering a digital track: the camera and GPS are synchronised and the memory card inserted to the GPS unit after the trip, which then calculates and imprints each photo's location.



Picture 5: screenshot showing sample geotagged photo gallery.

2.2 River trip reports

I decided on useful headings with my DoC host, Ian Wightwick, then made notes about river trips as soon as practicable after the event, in a diary. The river trip reports themselves were then written in full with checks on location data using Map Toaster software and Google Earth. See sample river trip (Arahura Milltown Gorge, three pages) below.

Appendix 3 contains river trip reports on the following rivers (sections):

Arahura (Newton Creek)
Arahura (Milltown Gorge)
Arnold
Buller (Earthquake)
Cascade (Gorge)
Crooked (Upper and Lower)
Grey (Upper Grey)
Hokitika (Serpentine and Kakariki)
Kakapotahi (Upper and Lower)
Karamea (Venus Hut down)
Kokatahi (Crawford Junction)
Lands borough (Toe Toe Flat)
Makawhio
Martyr (Monkey Puzzle Gorge)
Mikonui
Moeraki
Mokihinui (Johnson Hut, North Branch, The Forks)
Moonlight
Perth (Scone Hut, Five Finger Gully)
Styx (Tyndall Creek)
Taipo (Julia Hut, Seven Mile)
Toaroha
Totara
Turnbull
Waiatoto
Waimangaroa
Waipara
Waitaha
Wanganui (Upper and Adams confluence)
Whitcombe (Cropp)

These reports are also included in electronic form (pdf) in the attached DVD.

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Arahura (Milltown Gorge)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	On this trip, put in was at the 'Arahura playhole' through a farmer's paddock at approx: 42° 48.730'S 171° 12.942'E 543585	At the 'Red Shed' approx: 42° 44.004'S 171° 6.965'E 457670
Access description	2wd vehicular access to take-out up Humphrey's Gulley Road (off Arahura Valley Road off SH6), then drive round to Milltown Road off Kaniere Road. Access at put in and take-out involves crossing private land with good will.	
Land status (banks)		
Date kayaked (for this report)	6th December 2010	
Group members (on this trip)	Greymouth High School student trip, with 3 student kayakers and 2 staff including me on the river	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Mixed grade 2-3 whitewater, with shingle bars and chutes leading into bedrock gorge with rocky narrows and wide boulder rapids, leading out into shingle bars and flatter water to the take-out. Lots of good eddy-lines and teaching opportunities. Few hazards but real hazards do exist: tree strainers, small hydraulics. Flow on this day was low, about 20-30 cumecs. It would not often get lower than this and would be suitable for intermediate kayakers at a higher flow, possibly to 60 cumecs. It is therefore reliable in all but very low or very high flows.	
Description of water landscape (inc. water quality and clarity, river bed features)	Water was blue-green and clear with high visibility. although there is some cattle grazing upstream, the water seemed clean and drinkable. River bed features of bedrock, shingle and boulders were largely visible and attractive if not remarkable.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	At the put in and take-out, farming and forestry is visible. In the gorge, however, the valley is lined with native forest and appears largely pristine. There are shallow bedrock gorges and cliffs, overhung with vegetation, making a very scenic trip. Near the put in, views up valley are to the Alps.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Drive-up access and egress, farmland and signs of forestry reduce the wilderness feel, but there is a real wilderness feel in the gorge and egress is not at all easy. The long drive and gravel roads for access add to this feeling and urban or international visitors would most likely experience substantial wilderness feelings.	

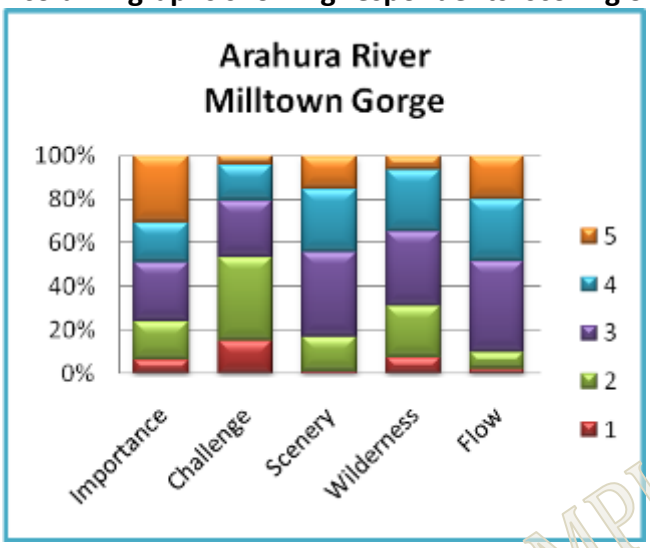
Notable flora and fauna (eg blue duck)	None on this trip
Description of overall character of river	This is 16km of classic advanced beginner/intermediate trip of the West Coast, with varied whitewater, suitable for a step up or first real river journey in scenic surrounds.
Distinctive features of river trip (key words)	Grade 2-3; pool drop; reliable flow; scenic; water quality; advanced beginner; improver,
Info for land managers	Current access arrangements work well but are delicate and assistance with more robust arrangements may at some point be required. This would be well worthwhile.
Info for rescue managers	It is quite possible that a search may be required in this section, due to human activity (hunting, tramping, kayaking) around and upstream. A kayak team would be best suited to this section. An initial search by helo would be useful due to open river bed and good visibility. Clear water makes visibility great. The channel width is mostly suited to easy searching from kayak. The drawback is the length of section so large amount of water to search. Expect a high POD but allow 4 hours for a quick search and up to 10 hours for thorough searching.
Any other notes	At the put in, the Aranhura 'playhole' is used at higher flows for 'playboating' which is gymnastic type surfing and playing in kayaks on a wave. There are shorter sections on the Arahura downstream of this section: from the Red Shed down to the information sign/shelter is mostly grade 2 but suited to beginners' introductions to whitewater and downstream of the sign/shelter to the SH6 bridge is largely g1.

The Arahura 'playhole'

Students upstream from the gorge

Statistics from 2010 West Coast Whitewater Kayaking Survey

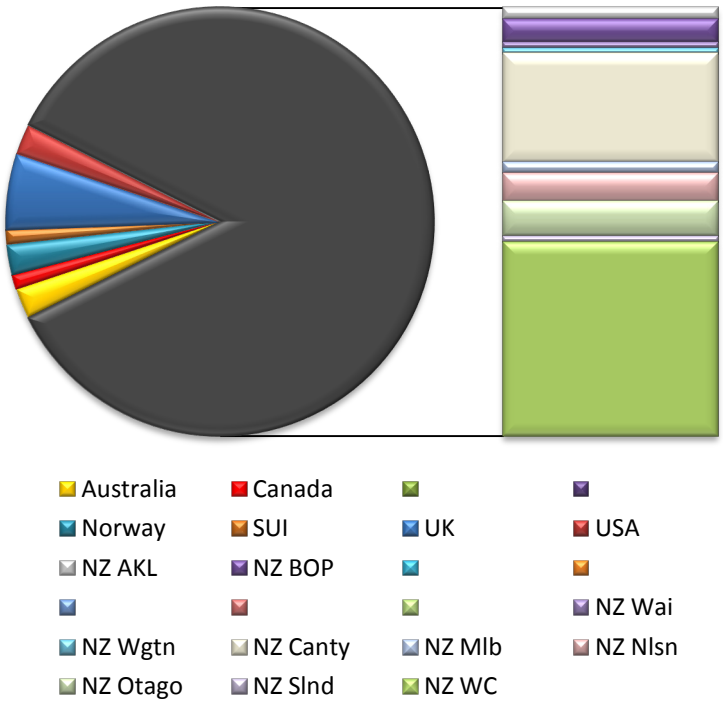
% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number

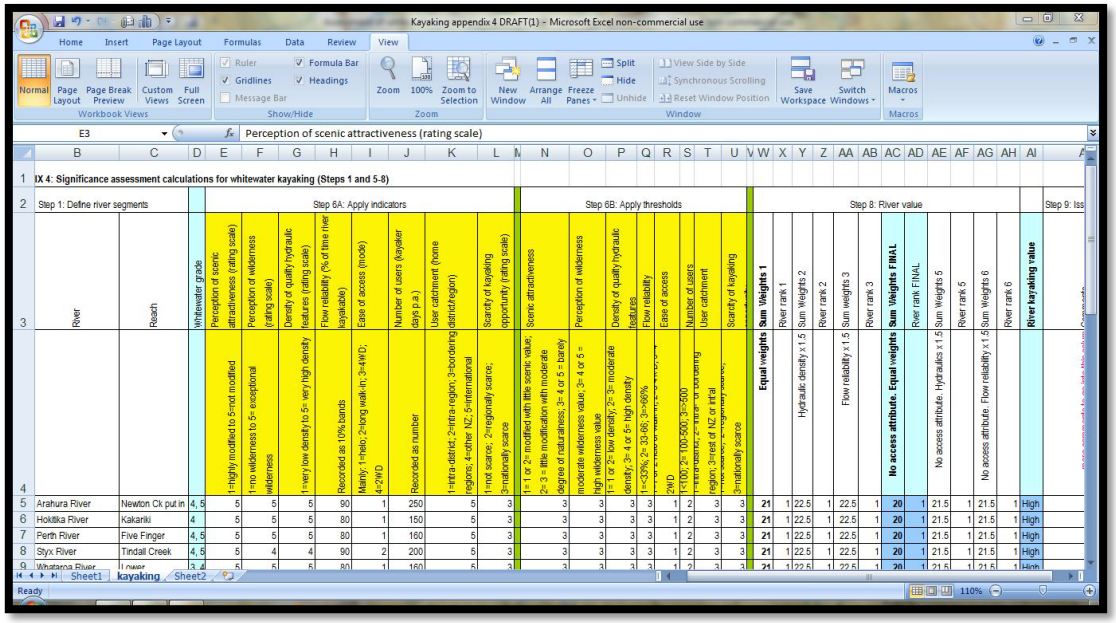
River users by country (pie) and NZ region (column): Arahura Milltown Gorge



Numbers	
Total number trips recorded	431
Number of respondents for this section	94
Mean number trips per person	4.6

2.3 RiVAS

The Lincoln University/LEAP RiVAS significance assessment method, already discussed briefly, relies on an expert panel to quantify values identified by another expert panel. This work was conducted in late 2009 and is available online (follow hyperlink above).



Picture 6: screenshot showing draft RiVAS spreadsheet for whitewater kayaking on the West Coast.

2.4 West Coast Whitewater Kayaking Survey 2010 (The Survey)

The principal method I used for gathering other kayakers' values was a survey. The West Coast Whitewater Kayaking Survey 2010 (hereafter referred to as The Survey) was developed with input from Ian Wightwick, Whitewater New Zealand, Lincoln University staff and friends. It was checked and approved by Lincoln University's Human Ethics Committee.

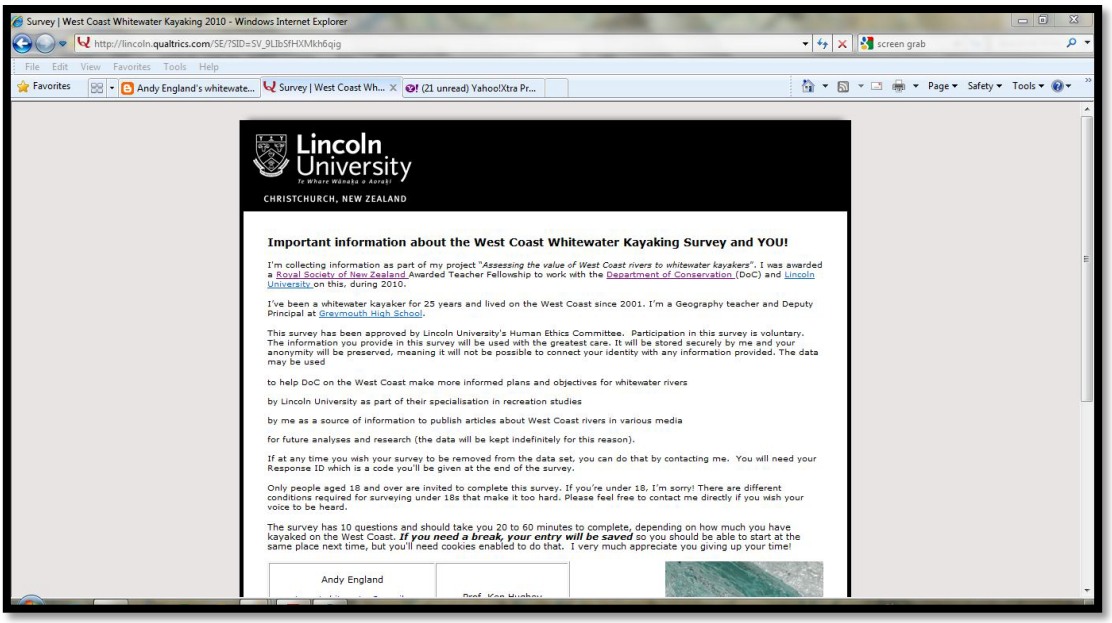
The Survey was online only, using Qualtrics software through Lincoln University. Access to the survey was only through a blog I created (www.westcoastnzriverstudy.blogspot.com).

It was promoted online using emails and a Facebook account I created. I then joined various online whitewater kayaking forums from around the world [2], to inform their users of The Survey. I emailed media releases to magazine[3] editors who included editorial about the survey (both online and in print). Finally, I did presentations to several audiences[4] about my project with reference to the online survey.

[2] Boatertalk, USA; Boof, USA; Playak, EU; Canoe and Kayak, UK; Rivers, NZ; UK River Guide, UK
[3] Rapid Media, Canada; Canoe and Kayak, UK; Kanu Magazin, Germany; Cumec, NZ
[4] Tai Poutini Polytechnic Outdoor Recreation programme, Greymouth; Christchurch Polytechnic Outdoor Recreation Programme, Christchurch; Whitewater Canoe Club, Christchurch

The Survey had three main sections:

1. General river values rated (based on values used in the NZCA 1991 survey, RiVAS and endorsed by Galloway, 2008)
2. Specific rivers rated by people who had kayaked them using the above values, to get indicative user numbers and relative values for each river; an open question asking what West Coast rivers mean to participants, to gain qualitative insight; a question about a river itinerary to try to find out about river inter-connectedness
3. Participant demographic data, to find out who was kayaking the rivers and particularly where they came from as this was accepted as an indicator of river significance; this data also provided a profile of the participants which helped to evaluate the answers to the other questions.



Picture 7: screenshot showing introduction page of the West Coast Whitewater Kayaking Survey 2010.

2.5 I had also planned to use **interviews** of relevant people to add further qualitative data. I planned interview schedules and submitted an application to Lincoln University's Human Ethics Committee, which requested further information, but I ran out of time. I had planned to interview:

- Whitewater river explorers who have made history (Graham Boddy, Gary Rae, Hugh Canard, Bruce Barnes, Tony Ward-Holmes, Graham Charles, Gareth Fryer, Ollie Koehler)
- Helicopter pilots, particularly Bruce Dando
- Campground owners and publicans (particularly Hokitika Campground and Les Lyes of the Mahinapua Hotel)
- Recent migrants to Hokitika and Neil Gillespie as a lifelong West Coaster and kayaker.

Picture 8: Dave Ritchie demonstrating perfect technical grade 4 whitewater kayaking on the Mokihinui River.

Picture 9: Dave Ritchie demonstrating perfect technical grade 4 whitewater kayaking on the Arahura River.

Notes

3 Assessment of data gathered

Having the time luxury to take such a holistic approach to assessing a region's significance has, in my opinion, resulted in a wealth of data that is new and, hopefully, useful.

3.1 Geotagged photos

The photo galleries are irrefutable evidence of what exists in the whitewater rivers of the West Coast. It is impossible to say they are fully representative, as:

- I tended to take fewer photos of flat water sections, due to a natural interest in whitewater
- 2009 was La Nina year with consequent low flows which affected the visual appearance of some rivers (for example Turnbull)
- Photographs can be set up in various ways to represent what the photographer wants to show, allowing an element of subjectivity.

The latitude and longitude of the photos, stored in their metadata, is generally accurate to around 10m, but in some cases the GPS unit 'assumed' my location (seemingly by taking 2 known points and assuming my track between them). This happened where satellites were out of reach or when the GPS unit batteries failed before I could replace them. There is no way of knowing or labelling which photos this applies to so some common sense checks should be made when using the coordinates. There are also two rivers, the Cascade and Buller Earthquake, where the GPS unit was either not with me (Cascade) or set to the wrong time (Buller Earthquake 'Gunslinger' and upstream).

3.2 River trip reports

The headings of the reports were set up to be as objective as possible but in any description of landscape there is an element of subjectivity. In this case, it could be argued that that is necessary as, in part, these reports were about describing the landscape as a whitewater kayaker sees it which, it is here accepted, may be different than how someone else, for example a tramper, may see the landscape. A sample river trip report is attached in section 4.2 (pages 27-29).

3.3 RiVAS

There has been a lot of evaluation of the RiVAS method by people far more educated in these matters than me. Most of this is included in the reports, available online (see references).

The West Coast report was the first, trial, application of this method to whitewater kayaking (it had previously been applied to salmonid angling). From my experience this year, I see the following issues:

- The expert panel made a few mistakes (valuable sections omitted and at least one river, the Cascade, scored incorrectly) which could in part be due to trying to cover

so many rivers in one day, a problem made worse by the West Coast region having so many rivers
- There was no written descriptive overview for the region (this has since been amended in the method)
- The headings were not all agreed upon and therefore may have been interpreted inconsistently (this has since been amended in the method)
- The overall product, a set of numerically ranked rivers, is of limited depth and value on its own; it requires further examination to be used as a decision making tool but could be useful for a strategic planning tool
- The West Coast Regional Council, for whom this work was done and who had a staff member involved, appear to have done nothing with the work to date.

That said, the method even in this first iteration did provide a list that could be seen as the "crown jewels" of West Coast whitewater and the lower ranked rivers generally are seen as less important by most people (but note, importantly, that they may well be valued highly by a few people).

Application of the RiVAS method is achievable by regional councils and cost-efficient, in that it takes around 3-5 staff days to conduct for a region. For that effort, the technique gives an overview of a river-based activity that will assist effective planning by:
- providing new understanding
- indicating 'hot spots' and opportunities when compared to other activities
- building relationships with interested parties in the community.

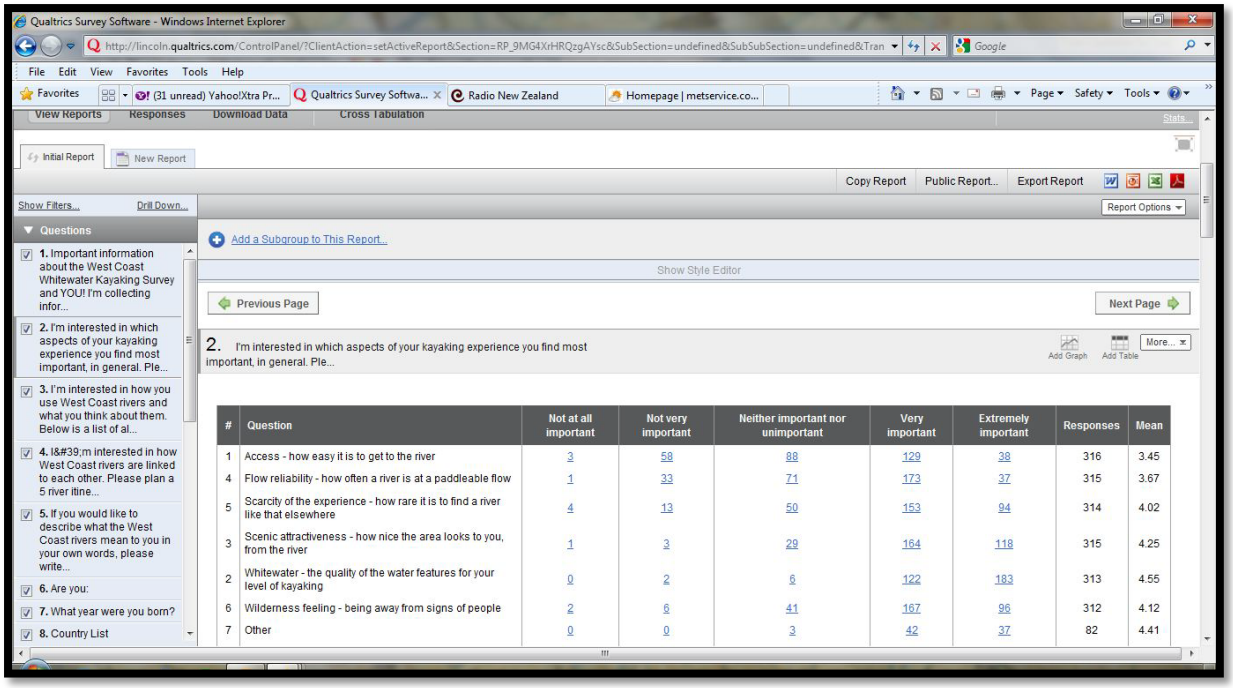
3.4 West Coast Whitewater Kayaking Survey (the Survey)

See Appendix 2. This is the part of my assessment that requires the greatest evaluation. The Survey produced a huge amount of data, enabling a range of analyses that have not all been conducted and would require their own evaluation if and when that is done. I will focus this evaluation on the gathering of the data, as my analysis is basic (calculating means, percentages and graphing).

3.4.1 Distribution of The Survey

The use of an online survey creates an immediate sampling bias, in that there are inevitably a few people who do not use computers or the internet (I know of at least one such person who has been a prolific whitewater kayaker on the West Coast). However, it was felt from observation that:
- almost all kayakers would be internet users
- face to face surveys would be extremely difficult to gather as kayakers could be anywhere and, even if I was to meet them they are likely to be too tired or nervous and it is likely that I would have an influence on their answers
- written surveys would require physical addresses and a large infrastructure as well as cost to conduct.

Given the above, I decided social networking was the most practical way to distribute the survey.



Picture 10: screenshot showing online results from The Survey in Qualtrics

#	Question	Not at all important	Not very important	Neither important nor unimportant	Very important	Extremely important	Responses	Mean
1	Access - how easy it is to get to the river	3	58	88	129	38	316	3.45
4	Flow reliability - how often a river is at a paddleable flow	1	33	71	173	37	315	3.67
5	Scarcity of the experience - how rare it is to find a river like that elsewhere	4	13	50	153	94	314	4.02
3	Scenic attractiveness - how nice the area looks to you, from the river	1	3	29	164	118	315	4.25
2	Whitewater - the quality of the water features for your level of kayaking	0	2	6	122	183	313	4.55
6	Wilderness feeling - being away from signs of people	2	6	41	167	96	312	4.12
7	Other	0	0	3	42	37	82	4.41

Using social networking was new to me, so I did not have a well established Facebook page and this initially limited the dissemination of information about The Survey. However, leaning on well established Facebook personalities (for example Ben Brown) did get The Survey worldwide publicity linked to my blog. Worldwide magazine (including 'e-zine') coverage, as well as online forums, will have added a few surveys, although I think it is unlikely that this was great in effect: only three German kayakers completed The Survey despite Kanu Magazin of Germany offering substantial editorial. I have kayaked on the West Coast over the last nine years with at least 20 German kayakers and emailed one directly about The Survey.

One of the difficulties of using social networking and an online survey is knowing how effective the component parts of marketing The Survey have been. I found no way of ascertaining that and for survey efficacy it would be worthy of study in its own right.

Talking about my project in person appears to have been very effective in gaining survey numbers: following talks that I did in Greymouth and Christchurch, completion rates surged. This did, however, coincide with the last 10 days of The Survey being active so it is impossible to say whether the talks were causal. Assuming they were, in part, this leads to a potential sampling bias which may be reflected in the numbers of completed surveys from West Coast and Canterbury (although that was always to be expected).

One other difficulty faced and not solved by The Survey was time of year, 1 July to 12 August 2009: southern hemisphere winter may mean kayakers here are more likely to be in front of a computer with some time spare, but that is less likely in the northern hemisphere and that may well be reflected by the results (28% from overseas). However, with no ability to track percentage of survey returns, and no actual river visitor numbers to correlate to survey results, it is impossible to know how accurately reflective a sample The Survey achieved. The Survey did achieve 260 completed surveys, from 443 people who opened The Survey.

3.4.2 The questions in The Survey

Questions in The Survey were pretested using colleagues and friends. A full trial was not run as time was limited and the number of potential respondents is very limited: I was cautious of survey fatigue.

The overall aim of the survey was:

- To test and help to calibrate the river attributes used in the 1991 survey and RiVAS
- To gauge usage levels of specific rivers as well as mean scores for their attributes, rather than relying solely on my field observations
- To try to look for patterns in connectedness between rivers
- To test respondents' attitudes to West Coast rivers
- To gather data for possible cluster analysis to identify types and preferences of whitewater kayakers.

Question 1, asking participants to score aspects of their kayaking experience, was straight forward and clearly worded. It gained good results and received no queries.

Question 2, asking participants to score individual river sections under seven categories, had several issues:

- Number of times kayaked had to be a total figure – number of times ever kayaked in a person's life – which prevents reporting an annual figure. However, it was decided that this was a more useful number as asking about "last season" would lose valuable usage information (not being able to report on rivers kayaked in the past but not kayaked last season)
- Kayaking season, or when the respondent kayaks the river in question, was presented as a 1-5 response alongside Likert values for other attributes, despite not being a linear value, potentially leading to misinterpretation by participants (although results are what I would expect from my knowledge)
- Quality of whitewater challenge was, in my mind, the most misleading of headings. It was chosen to tie in with the NZCA 1991 survey headings, but was intended to express an hard-to-define 'X factor' quality about whitewater (something between density of features, quality of water, shape and power of hydraulic features and the effect they have on a kayaker versus the kayaker's expectations). The 'top' score of 5 being titled "only on my best form" implies a bias towards harder whitewater that this category was not supposed to represent.
- River sections often have names that are not known by the general public, especially visitors to the region or the less experienced. Some I only found out as I conducted The Survey. This may have led to some people completing information about the wrong section of river, for example Arahura Newton Creek versus Arahura Styx Saddle. The results for each section do, however, more or less match my expectations suggesting this is not a major factor.
- Having so many river sections (rows) in the question made analysis a nightmare, with the online survey package crashing or churning impractically slowly when analysing this question. For future use, I would break this question down into subsections.

Question 3A, asking participants to plan an itinerary, was the worst question in The Survey on all levels and produced little or no useful data. It was intended to show links between

rivers, as I know that visitors in particular often have a 'tick list' with a fairly set order related to difficulty and other factors. However, this question was misunderstood by participants and could not account for factors such as weather, leading to emailed complaints from participants and poor data. I have not reported on this question in my findings.

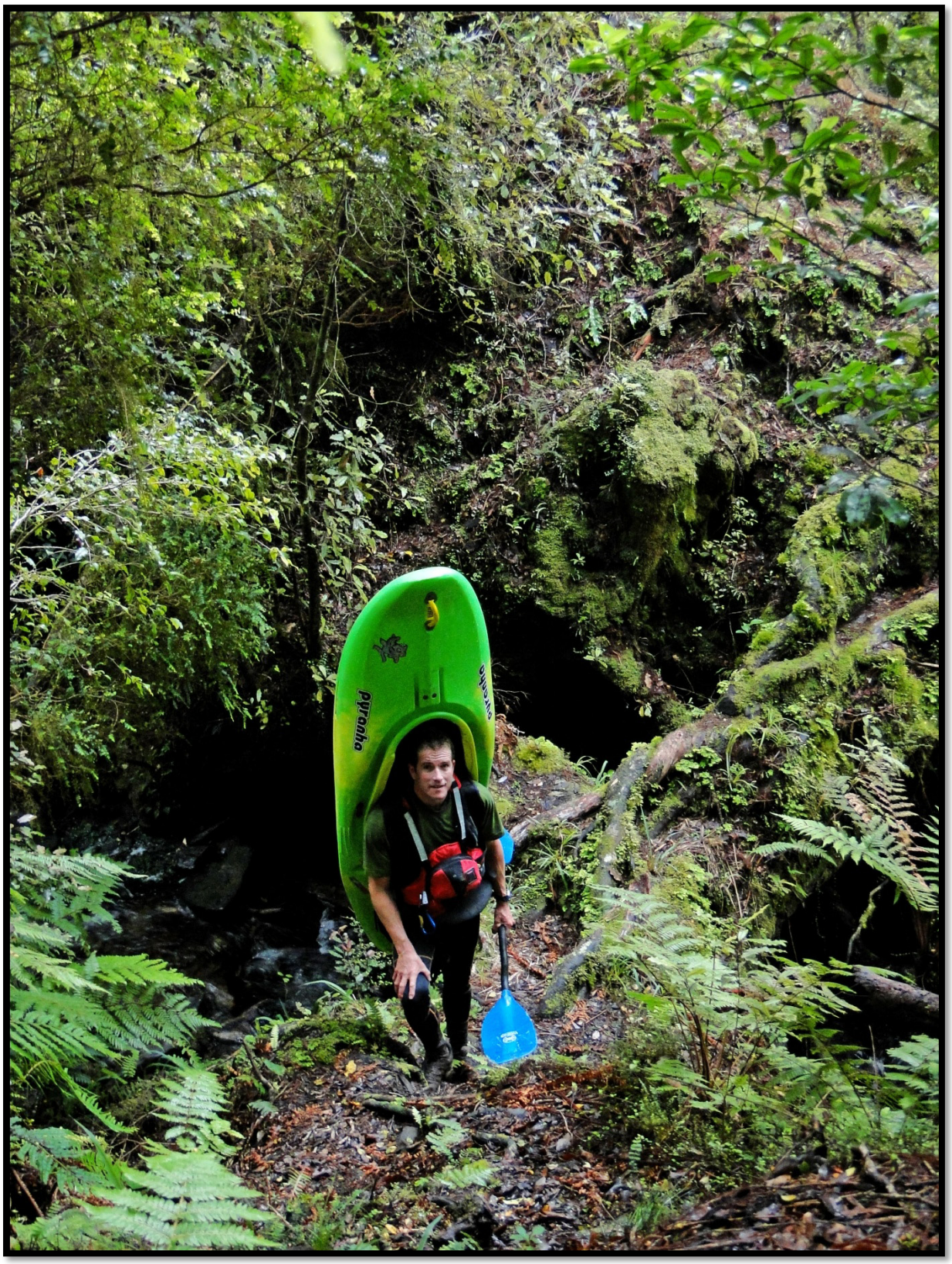
Question 3B, an open question asking participants to describe what the West Coast rivers mean to them, was highly effective in gaining rich qualitative data. It received 101 complete answers of varying lengths. There were no queries regarding this question.

Questions 4-10, requesting demographic information, worked well in providing data about what the respondents' profile was (for example most had been kayaking over 10 years). I received one complaint that the ethnicity question did not allow for just "New Zealander".

3.4.3 Issues with the online environment:

- The use of cookies to prevent "ballot box stuffing": The Survey recognised a computer so that participants could leave and come back to The Survey. This prevented multiple users using the same computer and, after contact from a frustrated couple, this action was lifted (thereby enabling 'ballot box stuffing' if someone wished to do so). Given that The Survey took most users 30-70 minutes to complete, I think it is unlikely that anyone chose to repeat The Survey deliberately to skew results
- Participants wishing to have a survey deleted could email me their user number, with the idea being I would then search the user number record and delete their entry. This was requested once and I found that the user number generated did not appear to match the ones in the register and there was no way to search the register, so the participant's survey was not withdrawn (and the person was informed)
- It was suggested that a question be added in future saying "are you ready to submit", prompting participants to go back and check their answers before submitting.

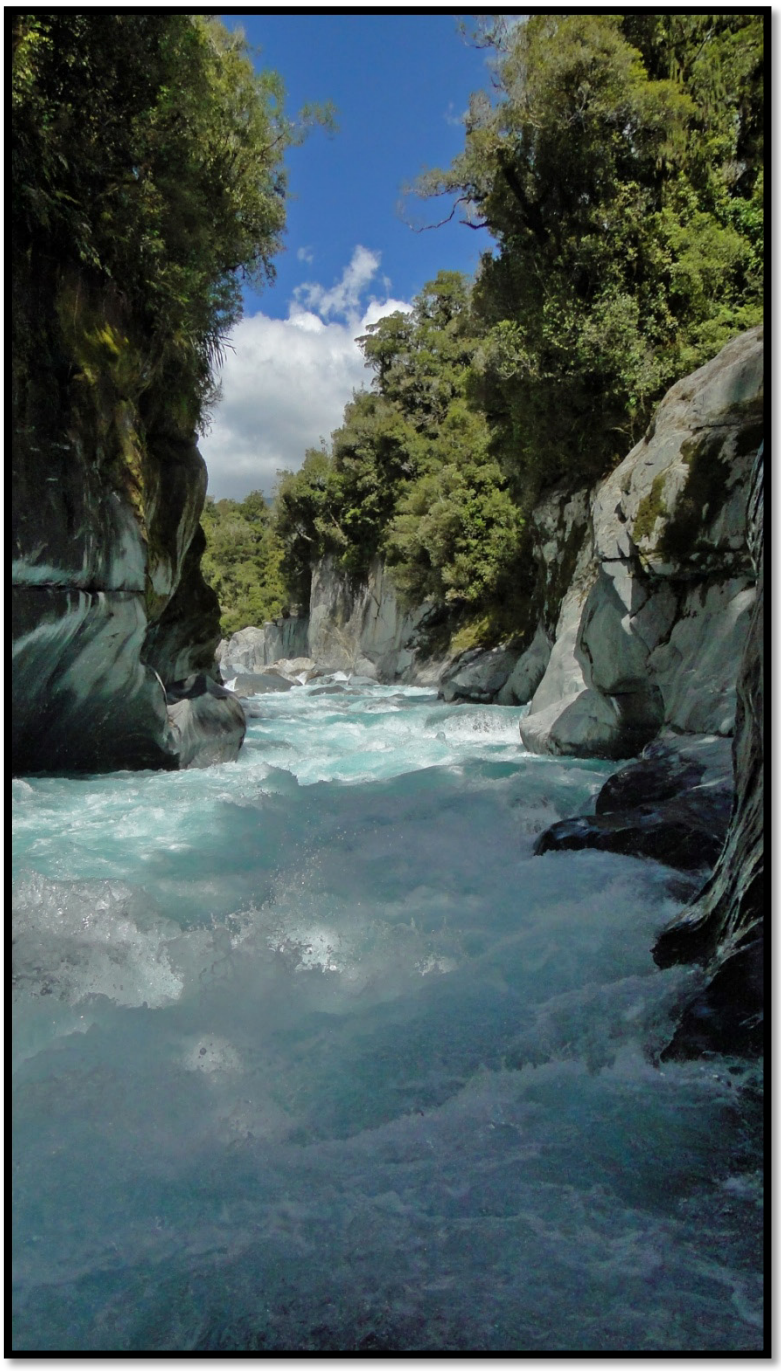
3.4.4 A potentially more significant problem could have been **biased promotion** of The Survey leading to participants' completion with agendas (for example rate everything highly to promote conservation). This could happen through social networking as others put their own spin on why to complete The Survey. To reduce this effect, I made access to The Survey exclusively through my blog with carefully worded neutral text.



Picture 11: walking in to rivers is a valued part of the recreation; Kevin England on his way to the Crooked. There are many rivers on the West Coast where walking in is not an option due to distance and terrain, particularly given the potentially arduous and dangerous kayaking required to get out.

4 Summary of key findings

I have produced a variety of products from this work, which are either attached as Appendices or available online; I also have a set of unprocessed data, available for analysis, from The Survey which is shared by Lincoln University and the Department of Conservation, Hokitika. Not all of this work can be described as "key findings" as it is aimed at providing reference data for decision makers and planners. In this section, I will describe what I see as stand-out points of learning, by project objectives.



Picture 12: classic West Coast gorge with blue water, steep scoured gorge walls and overhanging bush; the Arahura's Second Gorge.

4.1 *Project objective 1*
Develop a system for effective assessment of recreational value (specifically for rivers from a whitewater recreational user perspective but with a view to use for other activities)

I have already discussed what I see as the merits of the methods used. To me, there are three key points from my use of the method:

1. Kayaking the rivers, with others in a recreational setting, has been an invaluable tool in assessing their recreational value. No amount of paper/electronic data can replace having been there and experienced it. This would equally apply to any other activity, for example fishing. Prior experience in river value assessment is important in providing a framework for observation; this method is also expensive and time-consuming, but I would regard it as the ultimate method for assessing values in detail.
2. The Survey provided data from users around the world which is reasonably deep in qualitative and quantitative detail. It was cheap and time-efficient, even offering its own basic statistical reports. It would be very easy to adapt this technology for any number of applications, although for some river uses (such as swimming) it may be harder to access participants online.
3. One thing that has been asked for and I have not provided is a method for assessing and describing overall "recreational value for kayaking". This is because I cannot find a benchmark to assess against, or consistent agreement on what elements make up value, and through thinking and discussing this issue all year I have concluded that no score can be an accurate representation of overall value: each user's needs and wishes are different so their assessment of value will be different, meaning an overall value is a product of averages and hides important depth.

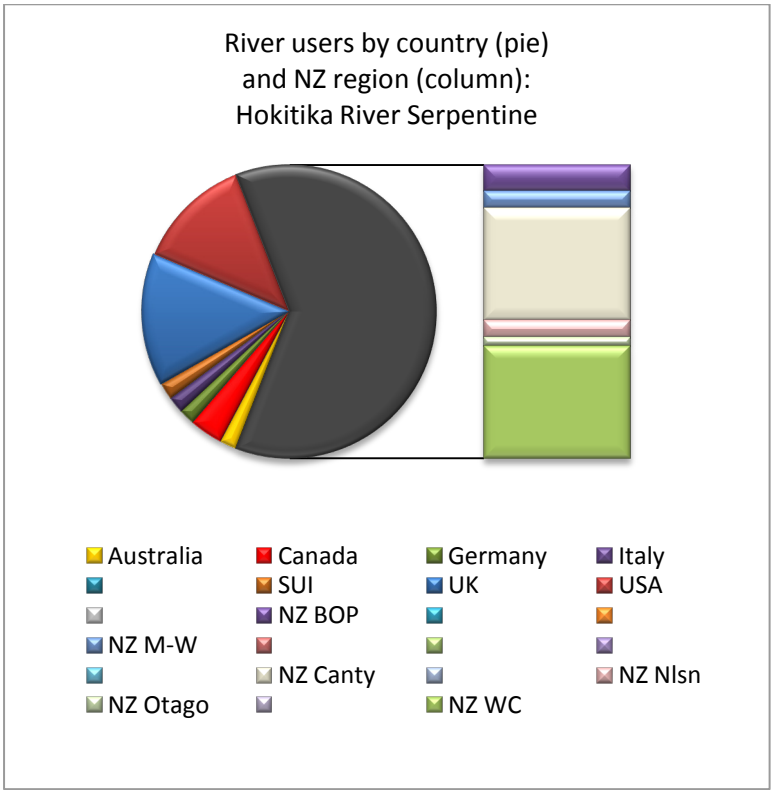
   For my purpose, I have taken "recreational value to whitewater kayakers" to mean a combination of
   - Overall importance as described by users
   - Whitewater qualities as described by users and me as a researcher
   - Landscape scenery qualities as described by users and me as a researcher
   - Wilderness qualities as described by users and me as a researcher

   Additional **primary indicators** of "recreational value to whitewater kayakers" that I consider valid for **specific rivers** are:
   - **Numbers of users** and the **number of trips** each person makes to a river, the higher number indicating greater value, although this does not have a linear relationship with overall value as some prized rivers have very limited numbers of users and return visits due to being extremely difficult and/or hard to access and/or expensive. It should also be pointed out that low numbers of users does not mean that a river is unimportant to all users, and commonly a river is highly valued by a few people who live close to it, particularly if it is rain dependant for example. A river with a high number of trips per person may be scored lower for other values but be very important as the most accessible trip; again this is not a linear relationship as access factors (for example the cost of helicopter use) affect repeat visits

- The '**visitor catchment'** of a river, where a river's users come from, the further away indicating greater value. Classifications help here (local, neighbouring regions, other South Island, North Island, overseas) as there is no point counting visitors from the UK as indicating greater value than from Japan, for example. As above, although this indicator is generally reliable, it hides the very high value placed on some rivers by local users and has minor complications in that visitors from further away are more constrained by time so tend to kayak a smaller range of rivers: these will be based on reputation which is a good indicator of value, but may exclude some highly valued rivers because they were too low when the visitor was present or the visitor simply didn't have time. Kayakers who are at the early and intermediate stages of learning do not tend to travel far for river experiences, which greatly reduces this indicator's validity for low grade rivers (for example the Arnold). Graph 1 is a sample of how this data is shown in The Survey and river trip reports (Appendix 3).

To assess the **value of a region**, I think it is important to **also** consider:

- the **density of high quality rivers** (as defined in the individual river assessments). A higher density makes a region more attractive as it offers more choice and more variety which, given the nature of hydrology combined with users' demands, will inevitably result in more activity
- the **connectedness of rivers** in the region; the way in which users may wish to progress between the rivers in the region to meet their demands. This concept includes a view of the spread of rivers by their difficulty as this is the primary factor that dictates which rivers users can access (a harder river with higher grade will be too dangerous for some users; an easier river with lower grade may not offer sufficient interest to some users).



Graph 1: each river trip report shows where its respondents came from (in The Survey). The pie chart shows countries (NZ in dark grey); the column shows NZ regions (here, West Coast and Canterbury are largest). Only countries and NZ regions with respondents in the graph are listed in the key, despite other colours being present in the key – this was an Excel graphing function I could not resolve.

4.2 *Project objective 2*
Assess and record the value of major drainages in the West Coast region to whitewater recreational users

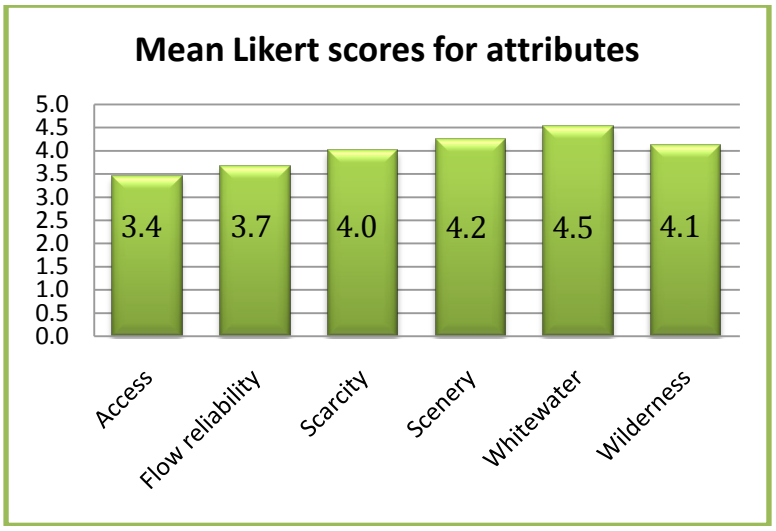
I have a volume of data relating to this objective that I would not count individually as 'key findings'. I will report on this objective in the following order:

4.2.1 How survey respondents value whitewater river environments
4.2.2 How survey respondents rated the rivers
4.2.3 How survey respondents rated the West Coast region's rivers as a whole
4.2.4 Other key points from my observations this year
4.2.5 My overall assessment of value of the West Coast's rivers to whitewater recreational users

Picture 13: a rare calm gorge in the upper Hokitika

4.2.1 How survey respondents value whitewater environments

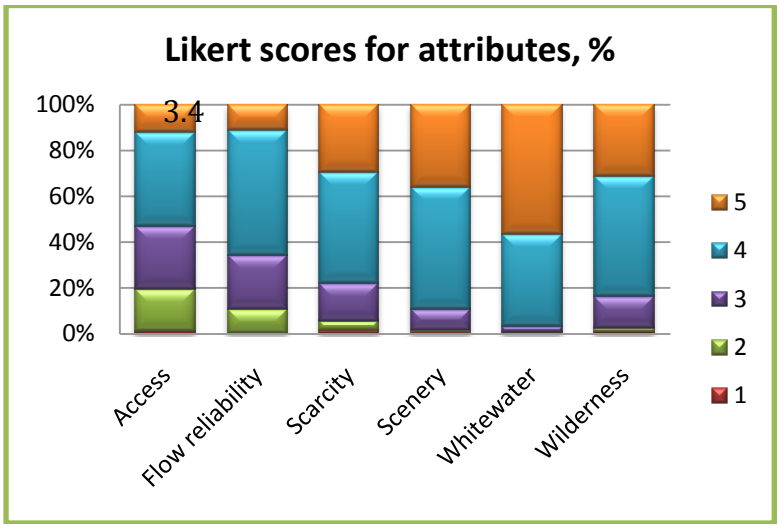
Mean Likert scores for Question 1 (see Graph 2) clearly show Whitewater as the favoured attribute, with Scenery and Wilderness shortly after. It is notable that no attribute is unimportant, although Access and Flow Reliability scoring in the three range indicates they are commonly regarded as "neither important nor unimportant". Greater depth of information about scoring is offered by Graph 3.



Graph 2: column graph showing mean Likert scores for river attributes from The Survey.

Likert scale used (both graphs:

5	Extremely important
4	Very important
3	Neither important nor unimportant
2	Not very important
1	Not at all important



Graph 3: percentage columns showing Likert scores for attributes from The Survey; each section of each bar shows the percentage of respondents who scored that number, indicating proportions, for example about 12% of respondents scored "Access" a 5 (the highest score).

The percentage columns show that most people scored most attributes 4, i.e. very important. It is reasonable to take from this that these attributes are all important for whitewater kayakers, but it may also show a rating trend. What is more revealing is the variation in allocations of the score 5, which to me suggests that respondents were in fact thinking about their responses with some care rather than simply claiming everything is very important.

It is likely that access was rated as it was (neither important nor unimportant) as it is seldom a problem on the West Coast, yet access is critical so very few people scored it as unimportant.

Flow reliability is a difficult attribute as many rivers are only good when in flood: this makes them less likely to be kayaked by people who live further away, but highly valued locally. Due to this dilemma, scoring of this attribute is of questionable validity.

Similarly, scarcity of a river is not an easily defined concept and, in terms or a region's attractiveness to kayakers, the opposite may be positive i.e. a plethora of similar high quality rivers. The higher incidence of 5 scores for this attribute most likely reflects the experienced/specialised nature of survey respondents, self selected people who have kayaked whitewater on the West Coast, have a distinct demographic profile that may also help to explain such scoring. Most respondents (55%) have been kayaking for over 10 years and 51% prefer grade 4 and harder, with 81% being male.

Scenery, whitewater and wilderness are all well-defined concepts and their scores are not surprising. Over 90% of respondents scoring whitewater 4 or 5, an average of 4.5/5, shows that whitewater kayakers clearly prioritise the hydrodynamic qualities of a river the most, but like to do that activity in naturally attractive environments if possible. Wilderness, though, has mixed blessings for a dangerous activity and I suspect that motivations for scoring it are more diverse than for scenery and whitewater: from observations over the year, some people do not like wilderness conditions, favouring safety from ease of egress; others see wilderness as a hindrance to accessing whitewater; others like wilderness for the additional challenge of conducting a dangerous activity with added risk; others like wilderness for the appreciation of nature.

In the "Other" category (see Appendix 2) water quality/cleanliness stood out as important with 38 entries. There are many references to social factors such as comradeship. There are also several entries that repeat the given headings such as wilderness or scenery.

Picture 14: steep and clean grade 4+ whitewater on the Perth River; Eddie Murphy.

4.2.2 How survey respondents rated the rivers

I have not given an overall rank, but rivers are graphed by order of their scores under the headings

- Overall importance
- Number of users
- Percentage of users from overseas
- Whitewater challenge
- Scenery
- Wilderness

This data is presented in Appendix 2.

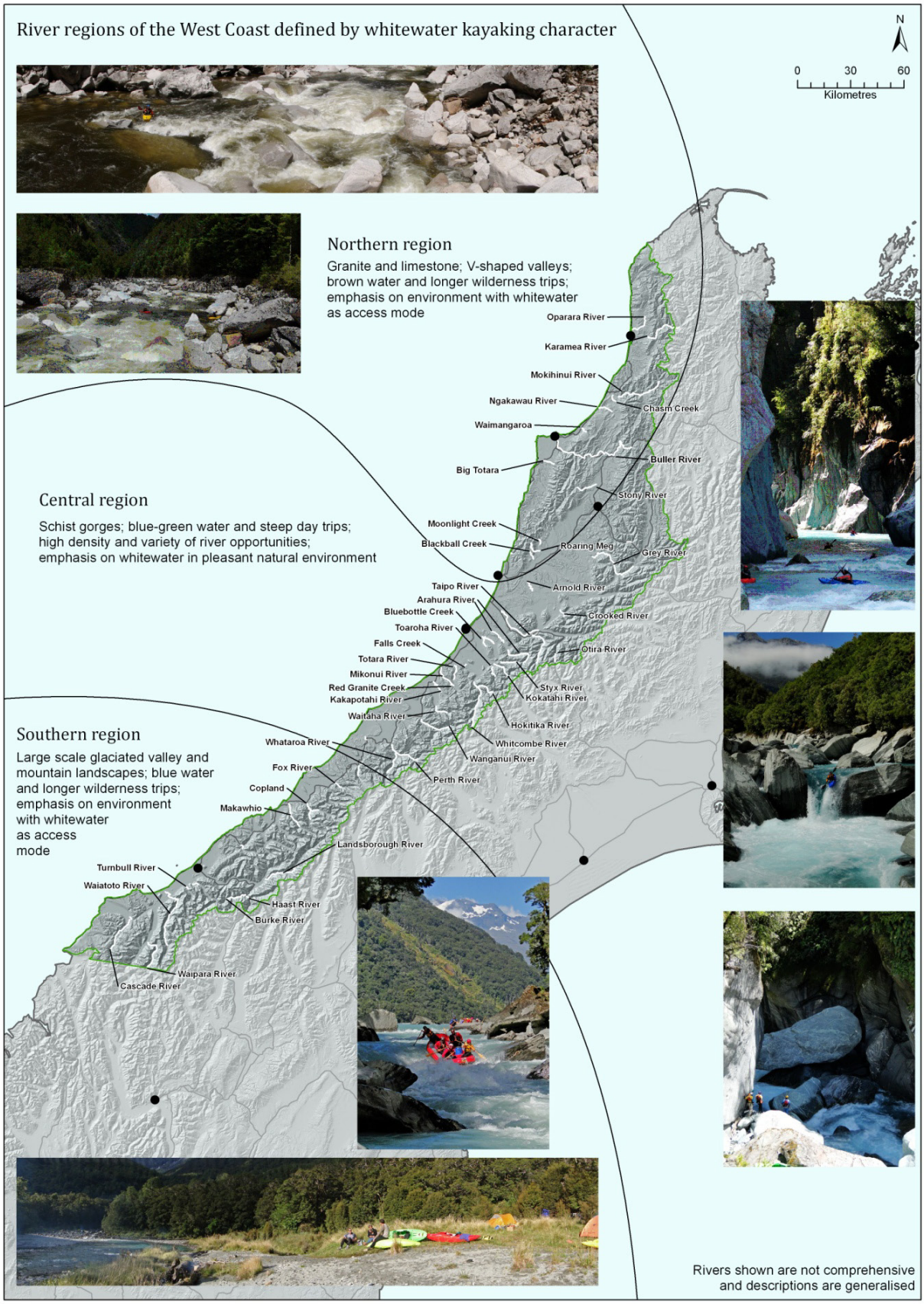
Picture 15: Mick Hopkinson surfs Lyell Wave on the Buller River Earthquake section.

Each river is reported on in River Report Forms in Appendix 1.

No single river stood out as being the most important or highly valued. There is remarkable reshuffling of river ranking between values scored in The Survey (see Appendix 2).

When the maps are analysed (see Map 2 and Appendix 2) there are two main points to be taken:

1. The West Coast region has a remarkably high density of highly valued whitewater rivers
2. Northern Westland, from the Taipo south to the Whataroa, has the highest density of whitewater rivers and most of the popular sections (except Buller Earthquake, but this is mostly considered part of Murchison). These rivers are generally day trips and highly valued across most aspects, although critically it is in part their high density that makes them so highly valued (see open ended questions in Appendix 2). Northern Buller and South Westland have a few very highly valued rivers and these are generally longer, more wilderness-focussed trips.



Map 2: river regions of the West Coast as defined by whitewater kayaking character; this map is included as a fold out in the envelope at rear.

4.2.3 How survey respondents rated the West Coast region's rivers as a whole

The open ended question "describe what West Coast rivers mean to you" produced some every rich data, with 101 written responses. A graphic illustration, with the top 50 words approximately proportional to their occurrence frequency, is reproduced from Wordle (Graph 4) below:

Graph 4: Wordle image with approximately proportional representation of words as they appeared in the responses to the open ended question "what do West Coast rivers mean to you?"

A selection of the most insightful quotes is below:

"I've travelled with a kayak to over 30 countries, participated in several major kayaking exploratory international expeditions, and I remain absolutely convinced that the West Coast has the most unique and most beautiful wilderness kayaking experience to be found anywhere. Stellar access with helicopter drop-ins, hard walk-in access, and remote and unspoilt pristine wilderness settings with true adventure challenge makes the Coast a destination for any elite kayaker, and is the reason I moved to New Zealand!"

"The West Coast is the heart of whitewater in NZ and I just love the place."

"The rivers of the West Coast of New Zealand are quite simply unique from a global perspective. There is nowhere on the planet that offers such accessible wilderness trips of such a high quality of whitewater in unique ecosystems, often on crystalline water, almost always with the highest level of technical river running."

"They are an incredible natural creation with stunning beauty and enormous adventure potential. There are a couple of these rivers that would have a similar national significance to me as say, Mt Cook or Mt Aspiring!"

4.2.4 Other key points from my observations this year

Other key points from my observations this year (noting that this report is primarily for use by DoC and so these observations largely relate to logistical factors that I have noted through working within DoC):

- **Helicopters** are necessary to access most rivers and are viewed positively by kayakers. Within DoC, helicopter access appears to be regarded as invasive and having a negative impact. Yet kayakers reported positively about helicopter use in The Survey and that was backed up by my observations in the field. I also noted that helicopters' impacts are temporary, very brief in fact, and no traces are left. More intrusion was noted from the orange markers, bridges and ladders of tramping tracks beside rivers than from helicopters. I would like to see more research about the use of helicopters in the backcountry.

- **Wilderness zoning** prevents helicopter access to some very high quality rivers which effectively prevents kayak access. I accessed the Cascade and Waipara rivers using research permits from DoC and found them to be amazingly high quality whitewater wilderness trips: that is to say that the whitewater qualities might not be as high as other rivers but the overall journey experience was top class. This results in reduced recreational opportunity with at least two top class experiences denied to kayakers. Maps of wilderness zones do not appear to have taken into account river users and I would like to see a review of wilderness zoning with all users represented.

- A **systematic communication system with kayakers is needed.** DoC's website has very little information on whitewater kayaking and DoC staff I discussed this with agree that very little is known about whitewater kayaking. The Survey indicates that lots of whitewater kayaking does happen on the DoC estate and should help DoC staff understand this form of recreation better. However, rivers and recreational activities change constantly and this work will be outdated soon: a systematic form of communication with whitewater recreationalists is needed, in my opinion, to continue to meet their needs. Whitewater New Zealand is the official body representing whitewater kayakers and their contact details are in the References section.

Picture 16: early morning on the Cascade, a highly valued environment-focused kayaking experience with access normally prevented by Wilderness zoning. Kayakers travel without trace.

4.2.5 My overall assessment of value of the West Coast's rivers to whitewater recreational users

Given what I have already stated, my overall assessment is qualitative with a recognised, albeit minimised, element of subjectivity, informed by a year of research.

As a collection, the rivers of the West Coast region are the most highly valued in New Zealand and amongst the most highly valued in the world by whitewater kayakers: this is most clearly evidenced by the open ended statements in The Survey but can only be further evidenced by national and international surveys. To whitewater kayakers around the world, the West Coast region is characterised by its rivers and its rivers are characterised by their high levels of challenge, scenery and wilderness.

In comparison to other regions of NZ and the world, the West Coast region has a very high density of rivers that have been assessed by me and by survey respondents as offering great whitewater challenge, inspiring river scenery and a strong wilderness feel. Added to this are such qualities as cleanliness and clarity of water, a range of access arrangements including helicopter access, physical closeness of rivers meaning low travel times between rivers, and a wider regional experience that offers additional social attractions.

That so many rivers of the West Coast are valued so highly does not belittle their assessment, but truly represents their remarkable qualities. It makes it impossible to segregate a common set of top rivers, but a general trend is that northern Westland has the highest concentration of top rated rivers for whitewater challenge, with very high scores for scenery and wilderness; while northern Buller and South Westland have small concentrations of rivers top rated for wilderness and scenery with high ratings for whitewater challenge.

Although the main whitewater kayak users of West Coast rivers are highly specialised and experienced, which reflects and is reflected by the high proportion of more challenging rivers, the region is held in high regard as a destination to aspire to by users of lower ability.

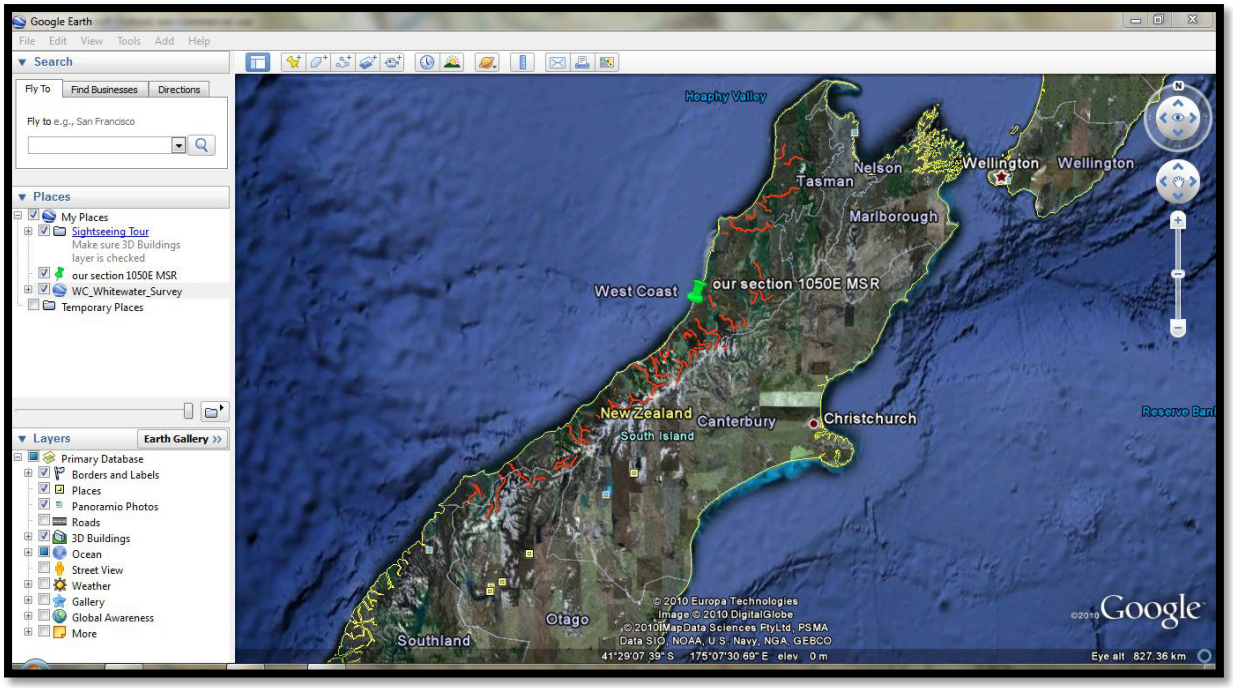
Picture 17: whitewater kayaking is made enjoyable by intuitively blending technical skills and knowledge of river dynamics with an element of risk that satisfies the need for personal challenge, preferably in a naturally beautiful setting; Jason Arbetter on the Arahura.

4.3 *Project objective 3*

Develop a method for data presentation that enables use for a variety of applications for example outcome statements for management plans, indicative tools for hydro scheme developers

Making data available and useful is challenging, especially when the potential users are unknown. For this study, DoC will host the complete data set at the West Coast Conservancy office and have it available though personal contact with Ian Wightwick, Technical Support Supervisor, Visitor and Historic Management. Ken Hughey at Lincoln University will host raw data from The Survey. I will host all data and maintain my blog www.westcoastnzriverstudy.blogspot.com as a portal for people trying to find data on West Coast rivers.

The most readily accessible form of data presentation should be a Google Earth file that summarises data from The Survey. However, technical issues with software on the DoC network prevented a final form being produced. I was sufficiently excited about the method's potential that I have included the Google Earth file in the DVD of electronic resources. The file simply needs to be opened whilst using Google Earth and it should be viewable automatically and offer the option of saving to 'My Places'.
Where further questions arise, more direct contact will be required as above.



Picture 18: screenshot showing sample image from Google Earth download, providing located summary information from The Survey. Red lines show locations of rivers included in the survey; when your mouse cursor hovers over a line, survey data appears as a pop-up next to the river.

5 Scope for further work

5.1 In terms of defining the value of the West Coast region, it would be very useful if a national survey could be completed (even better if done internationally). This would be particularly useful if sufficiently similar questions were used to allow direct comparison and, ideally, the synchronisation of data from The Survey. This would help to calibrate value ratings and offer confirmation or challenge assertions about the overall value of the West Coast region.

5.2 If it is accepted that *density of high quality rivers* and *connectedness of rivers* are valid indicators of a region's significance, then further research into these factors would be useful.

5.3 I am not fully happy with the depth of detail about what attributes of rivers in general mean to whitewater kayakers. The open ended section in question 1 of The Survey did not gain further insight as few suggestions were made by respondents. Further study on the relationship between kayaker specialisation and the river qualities they seek, enabling a user-focussed profile, would be useful evidence for anyone deciding issues around environmental management of rivers. A data contribution to this study could be taken from the raw data from The Survey, by separating the answers of respondents by specialisation indicators, such as their preferred grade or length of kayaking experience.

5.4 As mentioned in 2.5, I had planned but did not conduct interviews. I think this would offer qualitative insights into the value of West Coast rivers as well as an important historical record.

5.5 The rivers of the West Coast change naturally with floods, landslides and earthquakes regularly. This may affect their recreational value (for example the Kokatahi is more accessible and popular since "Carnage Gorge" silted up, becoming safer). A regular reassessment or update system for this database would be very useful.

5.6 No method so far has allowed for absolute numbers of users to be established. We discussed automated counters, logbooks and using observers, but rejected all methods in favour of The Survey indicators due to feasibility.

5.7 Any assessment of overall recreational value, or analysis of a region/nation's river values, must obviously include all river users. The RiVAS method is attractive because it does include a range of users. However, in the ideal world an in-depth study of a range of river users would be created.

5.8 This study has only looked at the value of the West Coast's rivers to whitewater kayakers. It would be useful to look at the value of whitewater kayakers to the West Coast, although some conclusions may be drawn from the final (demographic) section of The Survey.

5.9 It would be very useful for DoC to research the actual impact of helicopters in remote areas and the impact of different user groups.

Picture 19: Morgan Gorge on the Waitaha River; grand, pristine, spectacular, awesome, daunting, tempting, terrifying, inspiring and first fully kayaked in 2010.

6 Acknowledgements

My hosts, Ian Wightwick of DoC and Ken Hughey of Lincoln University, were instrumental in developing this project and very understanding; Liam Anderson at DoC created all my maps and it was great to work with Trevor Johnston. The staff at the RSNZ[5] have been a tremendous support and the scheme itself is amazing: as a teacher, I feel rejuvenated, upskilled and satisfied to have applied my Geography academic background. Shayne Galloway of the University of Otago freely offered great support, as did Kay Booth of Lindis Consulting, whilst Doug Rankin from Whitewater New Zealand shared his depth of experience. Mary Trayes at the West Coast Regional Council was positive and helpful.

Sony New Zealand supplied me with a laptop, camera, GPS and voice recorder. Pyranha Mouldings provided my kayak and Palm Equipment provided my outer wear, with Hydroscapes Safety Gear providing my lifejacket.

To get down the rivers safely I relied on good teams, and all of these people waited patiently for me while I conducted my work; Eddie Murphy and my brother Kevin particularly.

The project is dedicated to Sam Rainey, who would have had something to say about it.

Sam Rainey on the Arahura

[5] The New Zealand Sciences Mathematics and Technology Teacher Fellowship Scheme is funded by the New Zealand Government and administered by the Royal Society of New Zealand.

Notes

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Contacts for further information

For all **general kayaking and canoeing queries**, contact
Whitewater New Zealand
www.rivers.org.nz
whitewaternz@rivers.org.nz

For **rafting queries**, contact
The New Zealand Rafting Association
www.nz-rafting.co.nz
nzrafting@xtra.co.nz

For **specific queries about this project**, contact *either* the author
Andy England
1050E Main South Road
Camerons
Greymouth
03 7626782
westcoastwhitewater@gmail.com

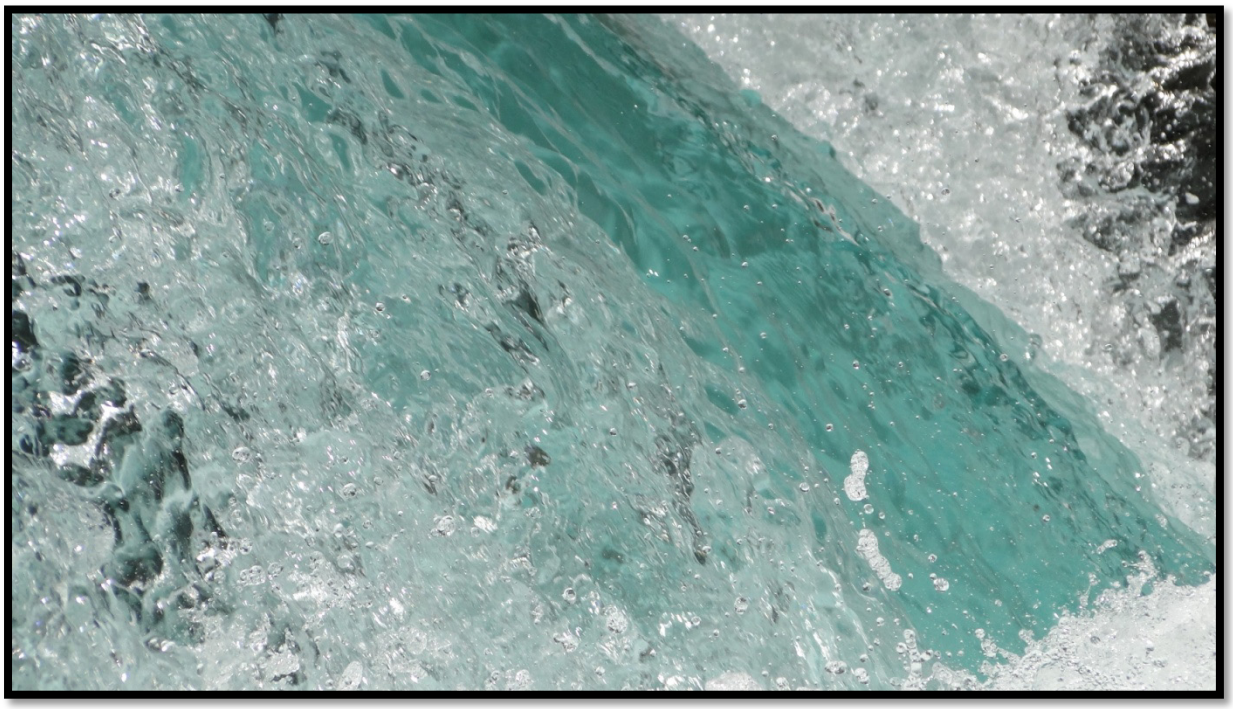
or
Ian Wightwick, Technical Support Supervisor Visitor and Historic Management
Department of Conservation
Private Bag 701
Hokitika

03 756 9158
iwightwick@doc.govt.nz

Appendix 1 Representative photographs

Every river is diverse and, on the West Coast, changes hugely with flow, weather, season and natural events such as flooding and landslides. These photos, taken in 2010, have been selected to represent the rivers I surveyed. They are in alphabetical order using the most commonly used river name. A comprehensive set of geotagged photos is included on the DVD: these are not copyrighted but an acknowledgement is appreciated.

Arahura (Newton Creek)



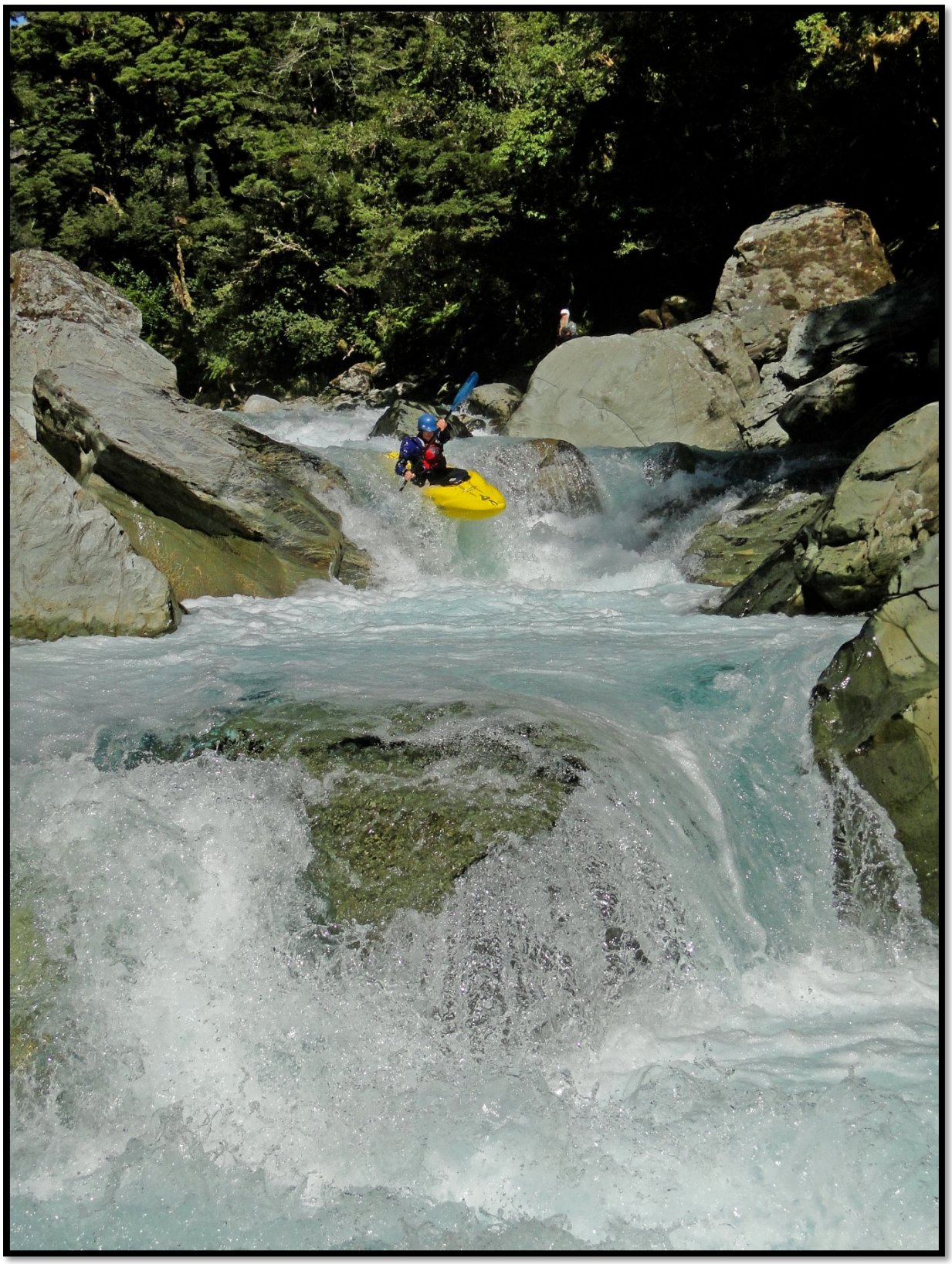

pyranha

Arahura (Milltown Gorge)

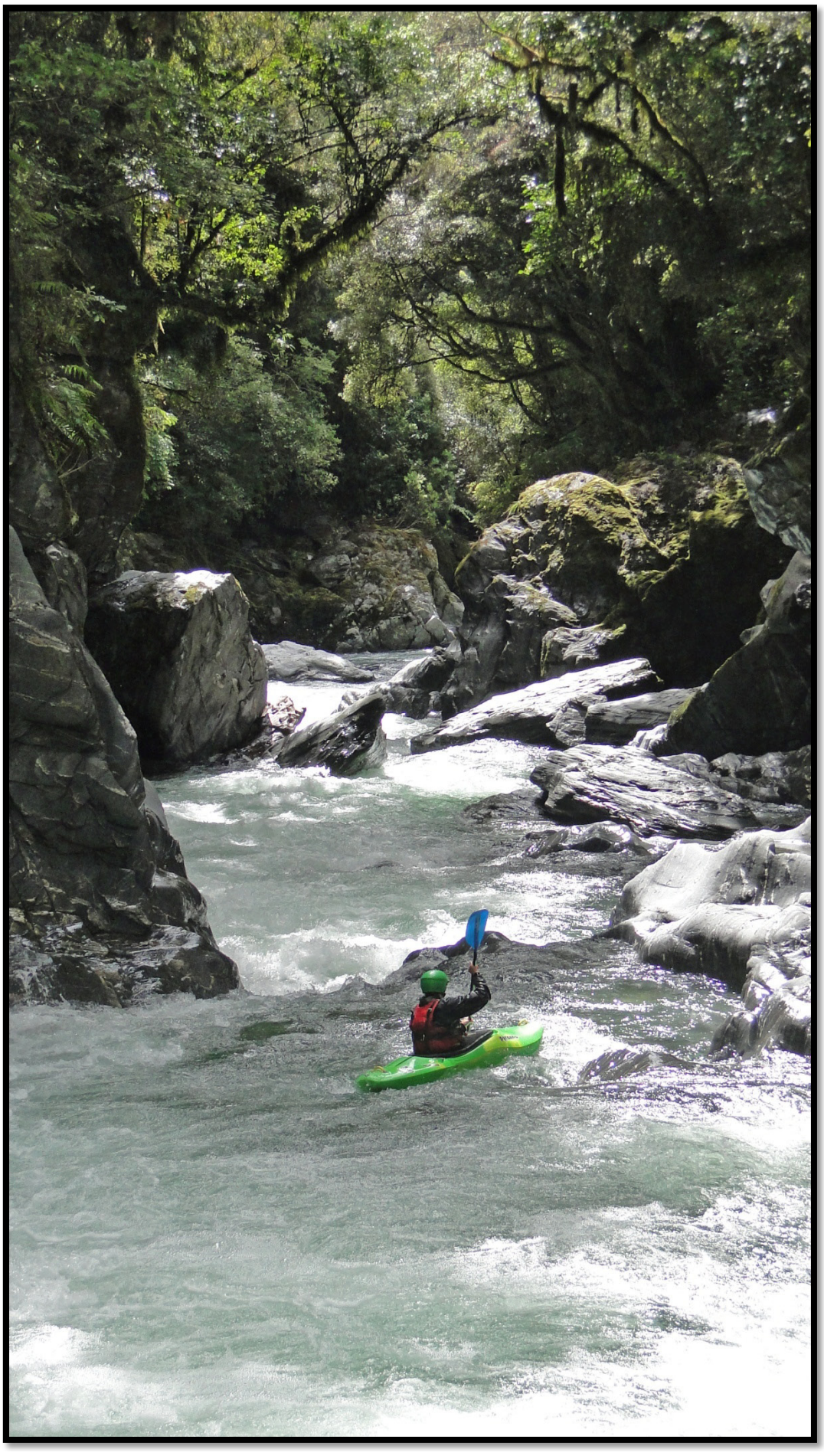
Arnold River

Big Totara

Cascade (Durwards Falls)



Crooked



Grey (Upper Grey)

Hokitika River

Kakapotahi

Karamea

Kokatahi

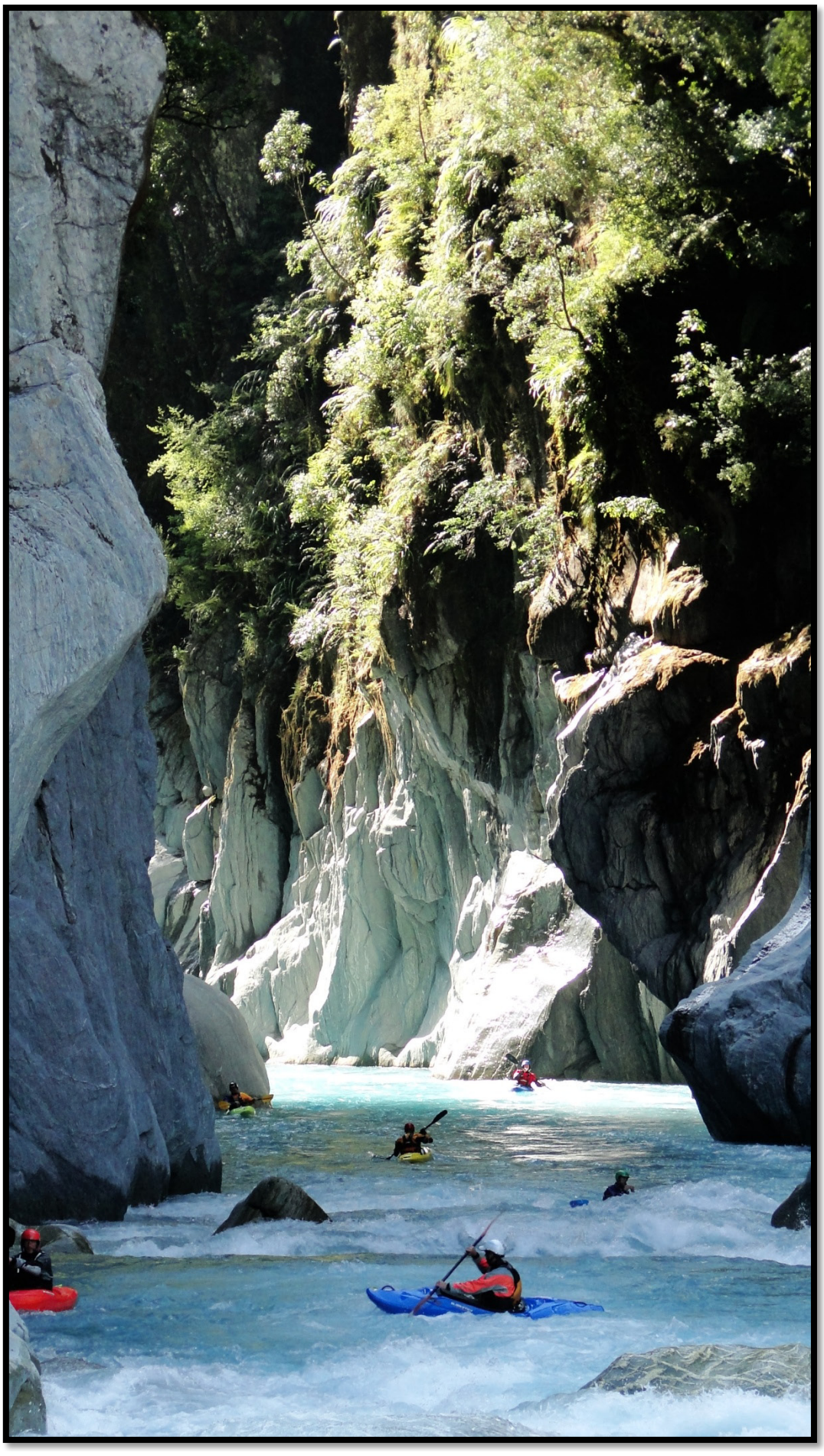
Landsborough

Makawhio/Jacobs River

Mokihinui (Johnson Creek, North Branch Mokihinui)

Moonlight

Perth



Styx

Taipo

Toaroha

Waiatoto

Waipara

Waitaha

Wanganui

Whitcombe

Notes

Appendix 2 The West Coast Whitewater Kayaking Survey 2010

Question 1.

I'm interested in which aspects of your kayaking experience you find most important, in general. Please score each aspect using the guide. Please add any other factors you find important and score them in the same way.

Access - how easy it is to get to the river

Flow reliability - how often a river is at a paddleable flow

Scarcity of the experience - how rare it is to find a river like that elsewhere

Scenic attractiveness - how nice the area looks to you, from the river

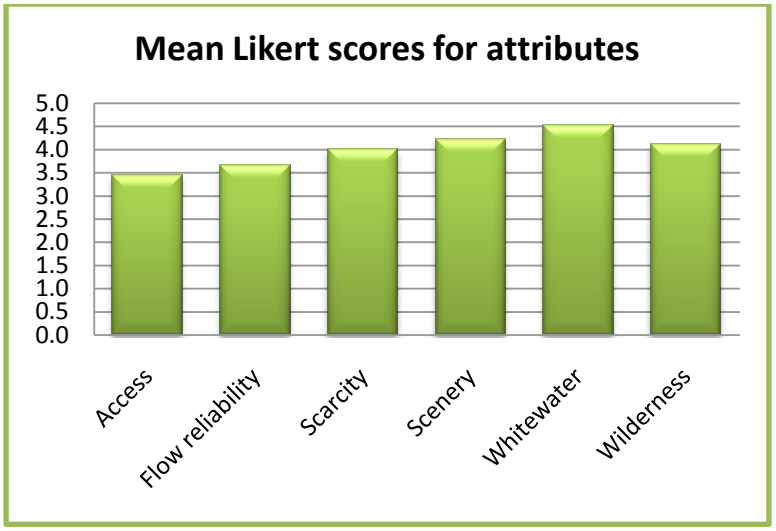
Wilderness feeling - being away from signs of people

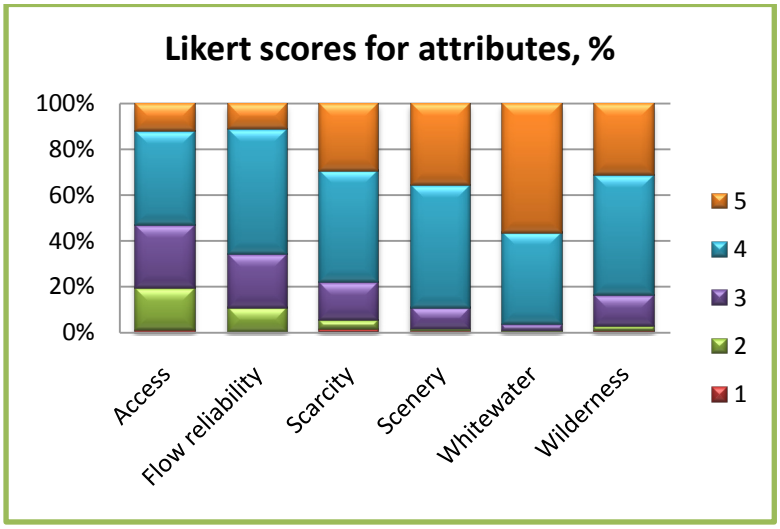
Answer options

1	2	3	4	5
Not at all important	Not very important	Neither important nor unimportant	Very important	Extremely important

Results

Attribute	Access	Flow reliability	Scarcity	Scenery	Whitewater	Wilderness
Number of responses	373	372	371	371	370	368
Mean score/5	3.4	3.7	4.0	4.2	4.5	4.1





Below is a table of entries for "Other". This is unedited (direct from the Qualtrics online environment) so includes typos/ spelling mistakes).

Other	Other	Other	Other
Clean water			
Teamwork - Skills and Communication needed to safely negotiate the river as part of a team	Duration - Length of time need to negotiate a section/river	Adventure - The sense of unknown, not knowing the end result and having to deal with what nature provides; Portages, Accidents, Overnights.	
Water Quality - cleanlyness of it			
Team on the day			
easy of use factor - clean lines	clean river - unpolluted		
team effort with individual responsibility	sense of community	sens of achievement	
viewing wildlife on trip	non polluted waters	kayaking buddies, out there with ones you know	meeting new kayakers, helping begginers
Range of people I can do the trip with	Expense of trip	Naturalness of the river	
value (quality per expense - $heli$)			
knowing a river is protected from corporations wanting to alter it to make money			
Heli access			
cleanliness of water			
teammates			
suitability for group level			
features	friends and companions	weather	novelty
being able to paddle with people who are capable and safe			
Companions			
Waterquality - how clean the water is			
The respect and importance of maintaining the rivers untouched beauty			
Availability of others to paddle with			
Consistency of whitewater ie all grade 4 rather than grade 2 with a couple of grade 4 rapids			
Cost to get from home to paddling the river			
Access - the amount of resistance from other people to you paddling			
able to interact with other people on and off the river while kayaking	able to take a guide with me in	able to have easy access to a range of	

	some places	river experiences so I can go out with my kids on the river	
Wildlife Sightings	Water Quality (drink-ability)	Hot Pools	
Length of river	Quality of campsites/huts		
people you are with			
The crew!			
access to water level information	egress off river in ermergency		
does the river feel like an adventure	The people i am paddling the rivers with	a clean river	
Helicopter access			
Absence of manmade hazards	Absence of jet boats/skis		
How hard are any portages?	Can you take grade 3 novices safely on this river?		
The water quality - Quality of clean healthy water	Free and wild - No human impacts such as dams, irrigation canals etc. River in natural condition		
sense of exploration of something new	mulit-day excursions	water quality (crystal clear blue)	sense of paddling in my own neighbourhood (south westland)
Access: availability of quality backyard runs in proximity of populated areas			
Being with friends on the river			
sense of adventure			
paddling with good buddies	paddling with competent safe friends		
clean water, not polluted	not damed		
Quite hard to answer--being able to get access (keys to gates!) is important but easy access less so	Variety of runs		
cost	time	paddling partners	
how far you have to drive			
water quality			
Company of supportive paddler group	bird life / Blue Ducks	Year round paddlability	
distance to travel			
Overall quality - combination of whitewater, scenery, type of rapid, etc.			
Water Quality			
cost to get to river			

not polluted			
Being out there with my mates with whom I like, know and trust			
The people that I kayak with	My/or my groups familiararity of the river or section		
water quality/ purity	people to paddle with!		
cleanwater	unimbinged		
Clean water (no polution)			
Knowing I don't have to rely on an engineer to decide how much water to release at any given time			
Pollution free			
spiritual aspect of being in such special places as westcoast rivers	social experience of kayaking these incredible rivers with close friends		
Lack of pollution, eg. farming run off, 1080 etc.			
Flow variability			
Usage - how crowded is the river			
being with like minded people who have a passion for the world class natural wilderness areas	Having the opotunity to introduce others to the N.Z. kayaking experience.		
Developing/maintaining friendships	Access to a kayaking community		
water quality (ie no polution)	variety of whitewater		
water quality (drinkable?)	no permits required	free parking at river	no car thefts, break ins
Clean Water	Road accessability	Amount of log jams	
Natural Flow Regime (undammed)	Protected from Development		
the people			
enjoyment level	people im with	water quality, pureness	
funness	quality of the water, cleanleness of the moves, lack of mank	proximity of takeout to pub	
kayaking with ones friends	reasonable weather	also , blend of easy whitewater with stunning scenery	
Proximity to other rivers (eg Murch rivers all valuable as people come for the RANGE of rivers, Glenroy is valuable as only Gr 4 in area, easy Coast runs valuable as stepping stones to harder runs, Mokihinui rarely done as long way			

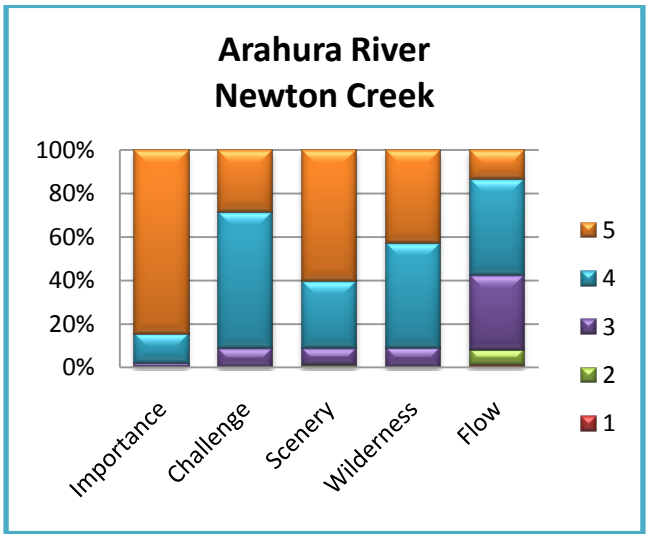
for just 1 river).			
being where few pepole or no one has has been fefore	exploring the unknown	enjoying New Zelands attributes	AND Linking Sweet moves in a wilderness environment!!!!!!
having reliable people	correct gear		
"undisturbed environment'	natural flow levels		
Being out with friends			
water quality, ie pollutants			
Comradeship with other paddlers			
water quality i.e. absence of any pollutants			
Peace - getting away from the stress of daily life	The challenge of learning new skills	Sociability - building string relationships with your fellow paddlers	
History of the area			
portage able?			
paddling crew on the day			
Natural flowing (non hydro devleoped)	Water quality (clean)		
The team of mates who I paddle with	Access to a variety of rivers	the river being as natural as possible	
social aspect	pushing oneself		
Community - sharing the experience with others			
Water quality			
lack of pollution	natural - not modified		
water quality	variety	absence of objective danger	

Question 2

I'm interested in **how you use West Coast rivers and what you think about them**. Below is a list of all the rivers I know of that are regularly kayaked.
Please **score** each river you know using the guidelines below. Please **skip** any rivers you have no knowledge of and **add** any other rivers you know.

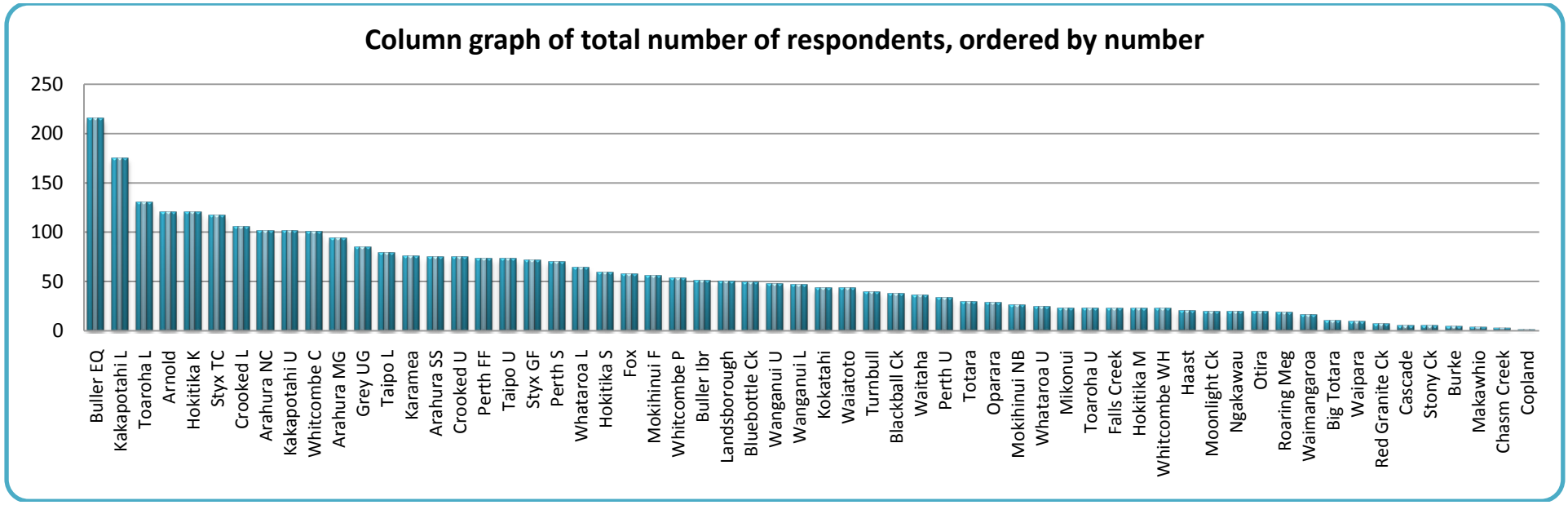
Score	1	2	3	4	5
Season	*Peak summer* only	(between)	Late *spring* through *till* early *autumn*	(between)	*All year* round
Importance	*Little or no importance*: plenty of other rivers I can go to for this experience	Minor importance: other rivers provide similar experiences	*Moderately important*: a river with some unique features although comparable rivers exist elsewhere	Important: kayaking this river provides an experience exceeded by few other rivers	*Extremely important*: this river offers a unique kayaking experience
Whitewater challenge	*Little or no challenge* to me at my level with little to keep me interested	Little effort needed on the river but a few features of interest to me at my level; enjoyable	Frequent rapids; enjoyable but *well within my capabilities*; play spots; a fun trip	Challenging trip which makes full use of my kayaking skills without extending them	*Very challenging trip*; would only attempt when confident of kayaking at my best; the limit of my ability
Scenery	*Unattractive*: river and area around river not pleasant to look at; river may be polluted	Moderately attractive: some local features of scenic interest mixed with less attractive sections	*Attractive*: scenery pleasing to look at but generally just from the river and banks rather than the whole valley	Very attractive: river and banks scenic, sometimes spectacular; striking views of valley or gorges	*Inspiring*: scenery spectacular throughout trip; both in river and in valley, e.g. water colour and shapes, gorge walls, mountains
Wilderness	*No wilderness* feeling: road traffic or other human activity generally noticeable from river	Little wilderness feel: roads or human activity easily accessible from river even if not visible	*Some wilderness* feel: signs of human activity but not always; roads reachable with effort	Strong wilderness feel: largely unmodified with very limited access to roads; walking out could take up to a day	*Exceptional wilderness* feel: pristine environment, extreme sense of remoteness, extreme effort to walk out
Flow reliability	*Highly unreliable*: rarely at a suitable flow and very hard to predict	(between)	*Quite reliable:* mostly paddleable but not always at a good flow when I expect it	(between)	*Very reliable*: suitable for kayaking at most flows and almost always flows within that range

Individual river trip reports contain the statistics from this question and graphs of both the respondents' geographic origin and percentage column graphs of their responses. An example is provided below for explanation:



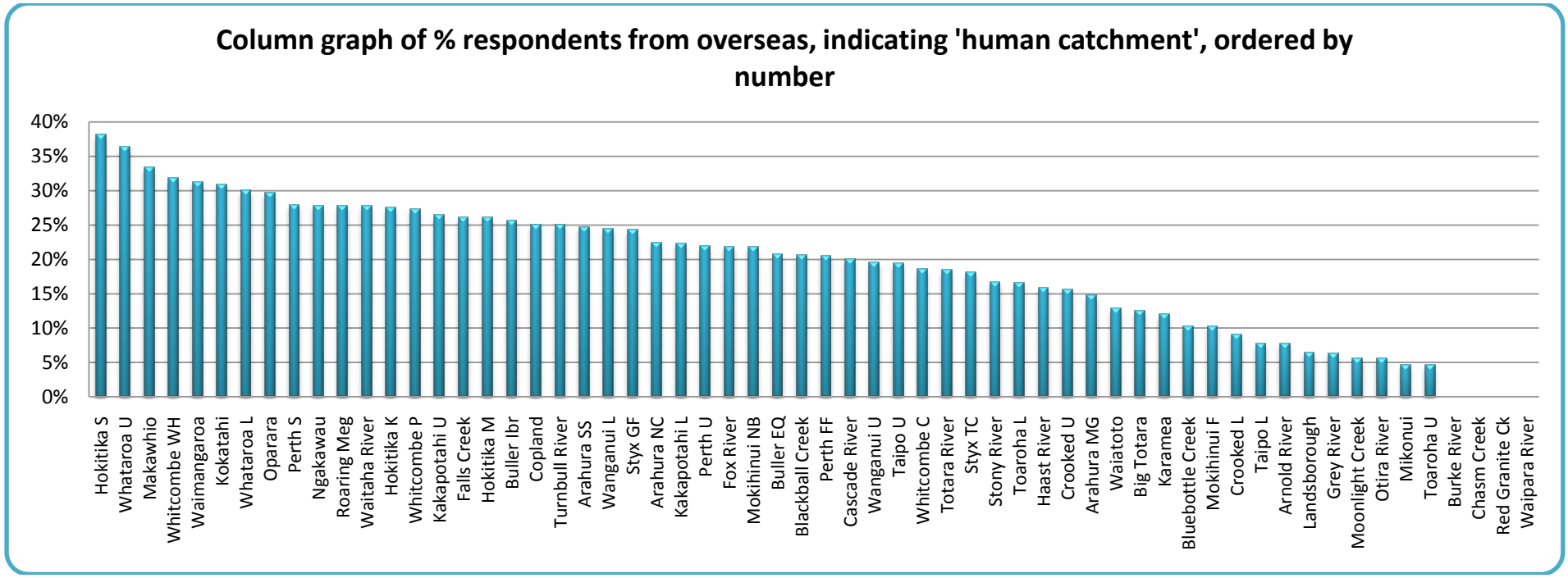
The proportions of the columns indicate the respondents scoring that number for example over 80% of respondents scored overall importance a 5 (the most important). This is one of the West Coast's most popular classis grade 4-5 day trips. Most people scored challenge a 4, probably as this section is now regarded by many as an easier trip (also reflecting the question error, see assessment of data section). This section of the Arahura scores very highly for scenery, high but lower for wilderness and mixed high scores for slow reliability. This reflects that it is in a very beautiful valley, with a track and some signs of people, and it has quite a wide flow range that not everyone appreciates at the extremes.

Mean scores from this question have been put into column graphs (see overleaf) and maps (after). The column graphs do not have section names on their Y axes, to practically enable viewing: for this level of information, see the river trip reports.

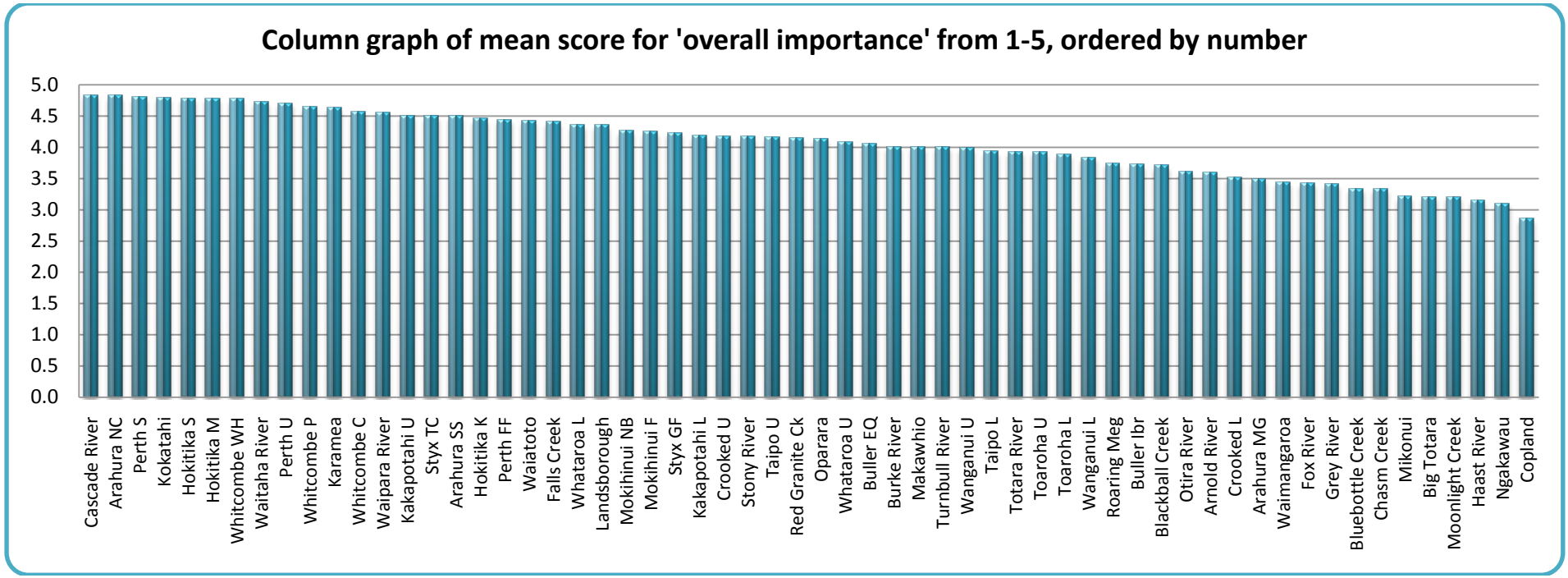


Number of respondents should indicate number of users, although there is no way of knowing exactly how well. in that way, this graph makes sense with my observations.
It is worth noting that low number of users does not imply low quality of a river's attributes. Factors include distance from population centres, cost of helicopter access, length of walk in, access prevention by factors like Wilderness Zoning, difficulty/danger of whitewater preventing some people using a river, inclusion or not in guidebooks. It is notable that the 'top 5' rivers are relatively easy rivers for the West Coast (and the Buller is more commonly associated with Murchison).

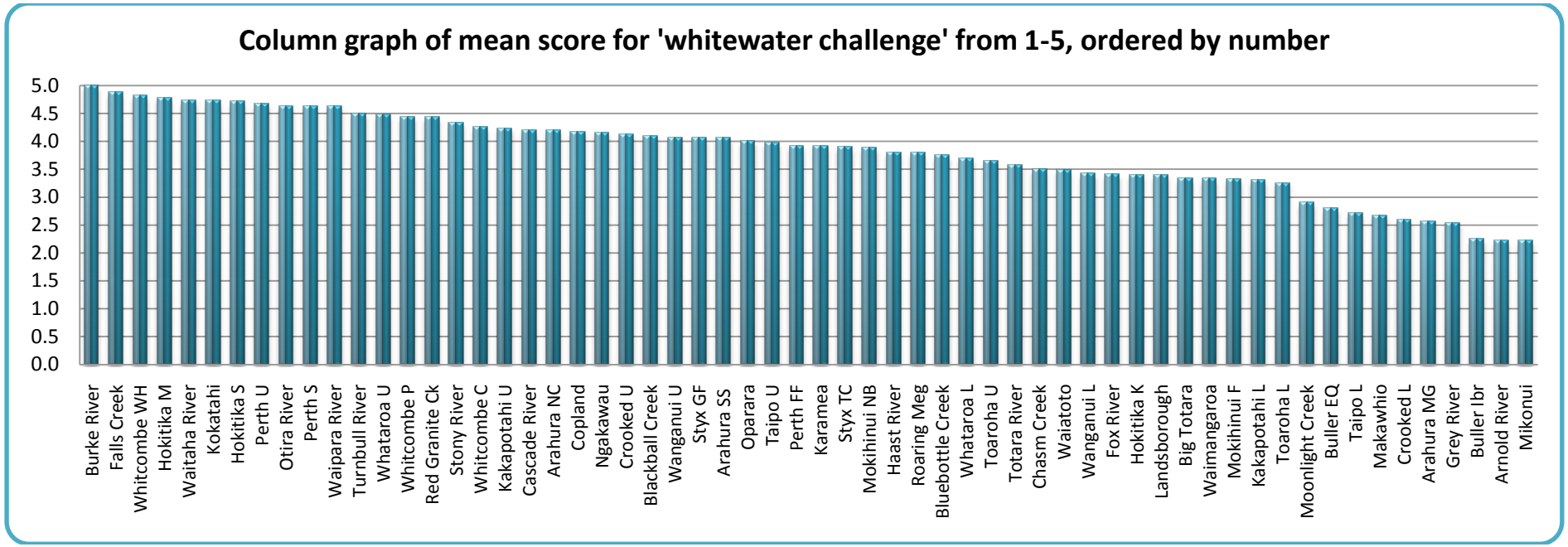
Sections have been abbreviated to fit on the axis label:
"U" = Upper
"L"= Lower
Arahura MG= Milltown Gorge, NC=Newton Creek, SS=Styx Saddle; Buller EQ = Earthquake, Buller IBr=Iron Bridge down; Grey UG=Upper Grey; Hokitika K = Kakariki, Hokitika M = Mungo; Hokitika S = Serpentine; Mokihinui F=Forks, Mokikihinui NB=North Branch; Perth FF=Five Finger, Perth S=Scone, Perth U=Upper; Styx GF=Grassy Flats, Styx TC=Tyndall Creek; Whitcombe C=Cropp, Whitcombe P=Prices, Whitcombe WH=Wilkinson Hut or higher.



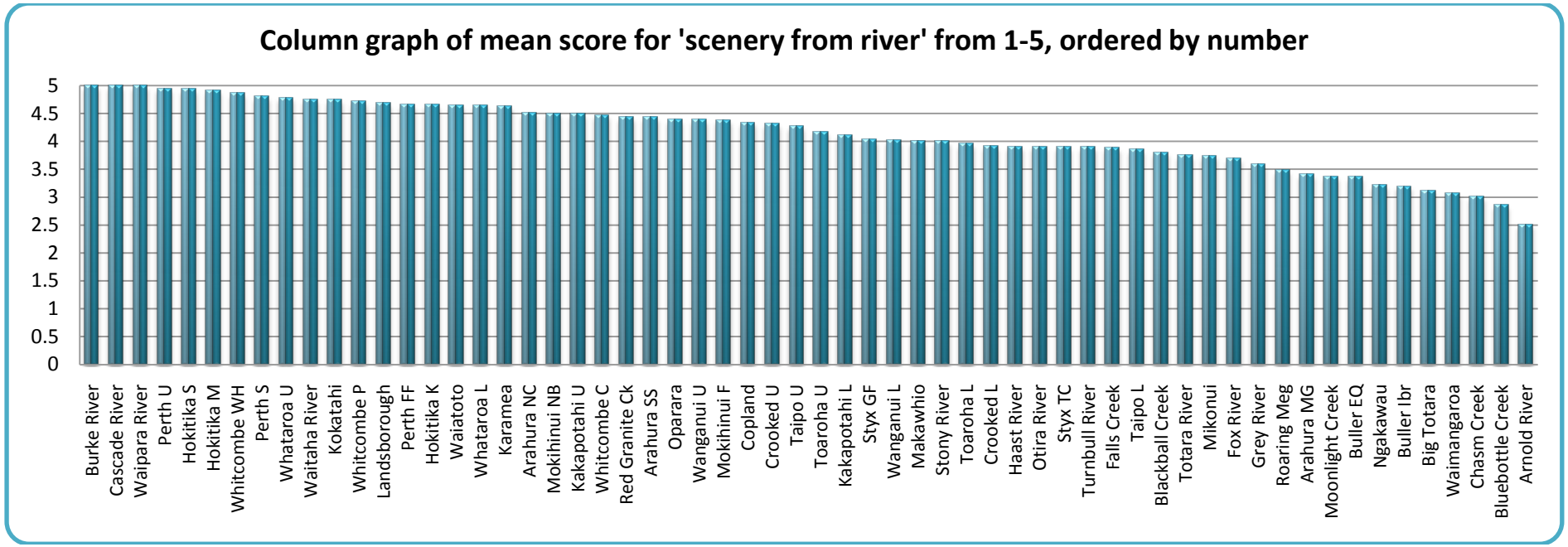
This graph has to be used in conjunction with the number of respondents, as in some rivers (for example the Copland) there were few respondents and a high proportion from overseas. Generally, easier rivers have a lower proportion of respondents from overseas and harder, guidebook rivers have a higher proportion.



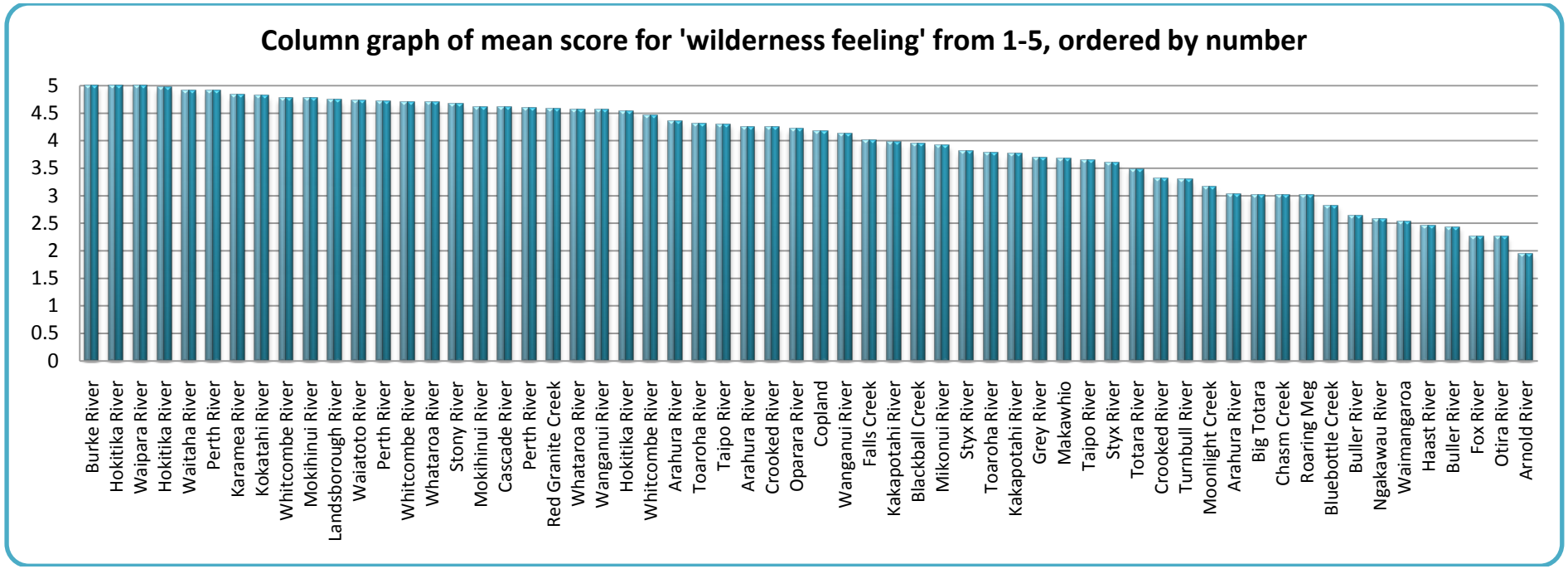
It is obvious from this graph that most respondents viewed most West Coast rivers as highly important. There is sufficient variation though, to suggest that careful thought has been applied. There is a definite bias towards harder rivers, reflecting the respondents' profile. In my opinion this graph is a reasonably accurate reflection of the situation, other than the bias towards harder rivers (for example the Arnold should be placed higher).



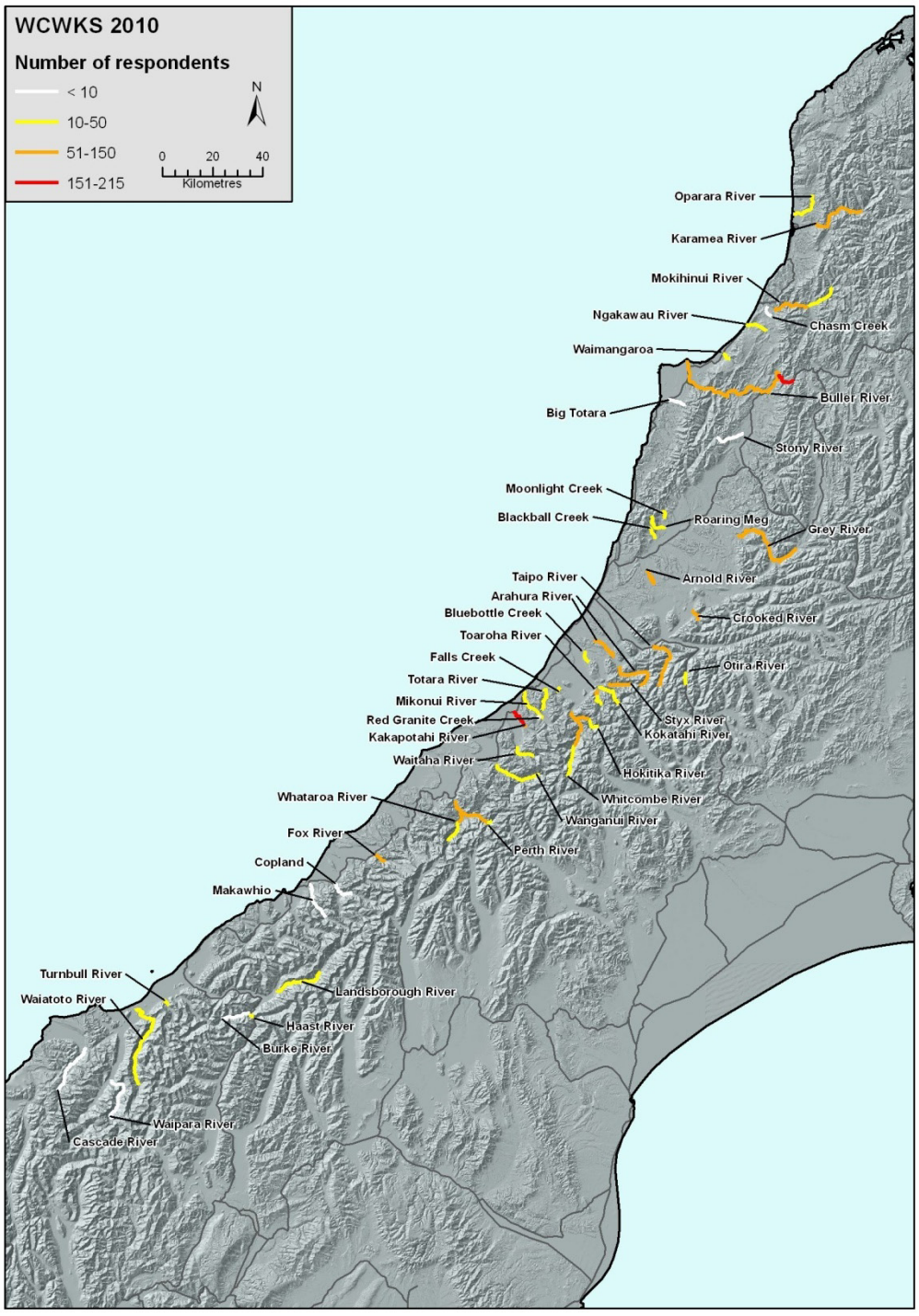
Viewing this graph helps to explain the graph above, of overall importance. This graph has been affected by the working of the survey question (see assessment of data gathered).



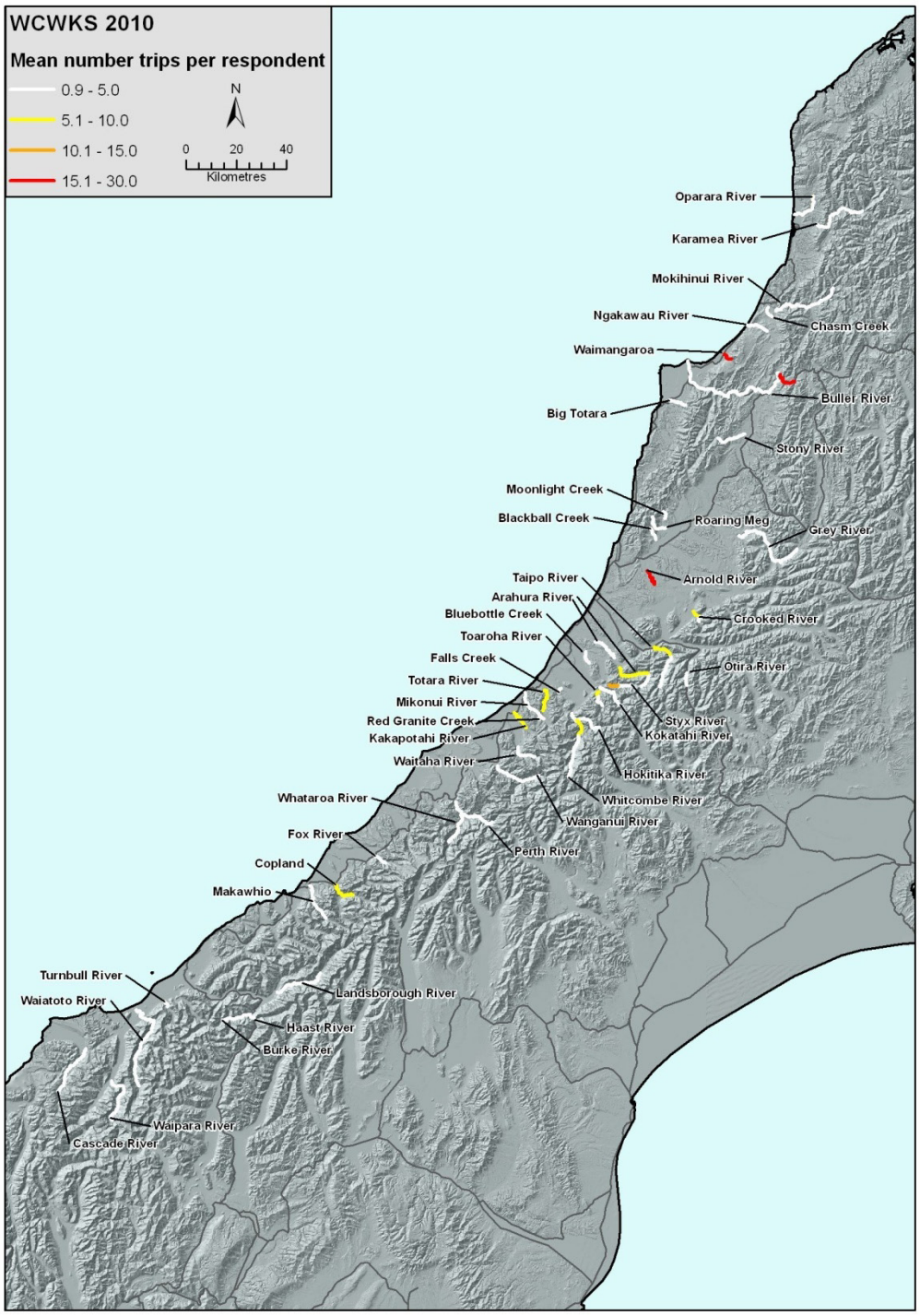
Do consistently high scores devalue the results? From my observations, this graph is quite accurate. It does represent a sum of subjective views, however.



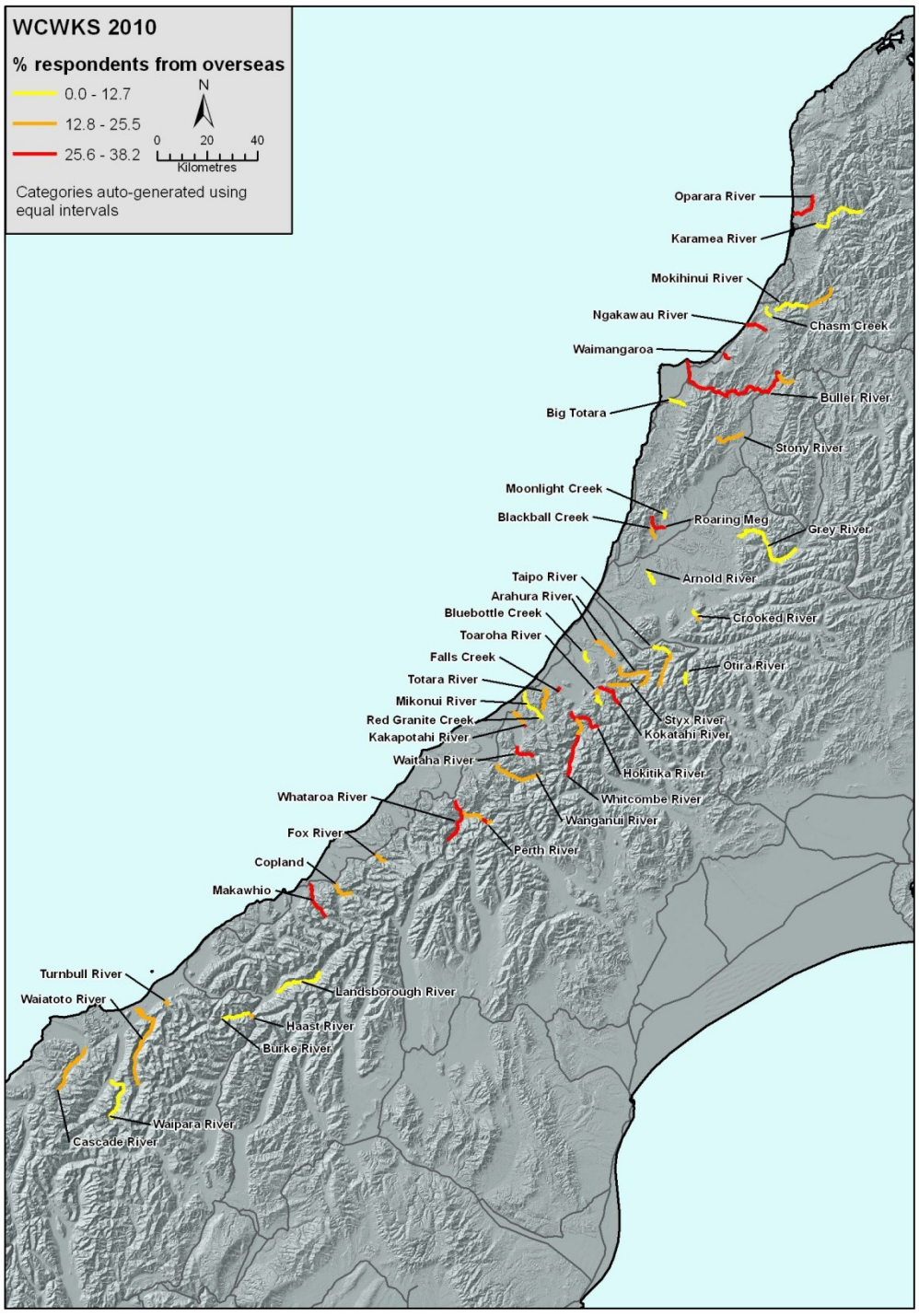
Again, people's perception of wilderness varies but this graph more or less matches my observations from kayaking these rivers during this project.



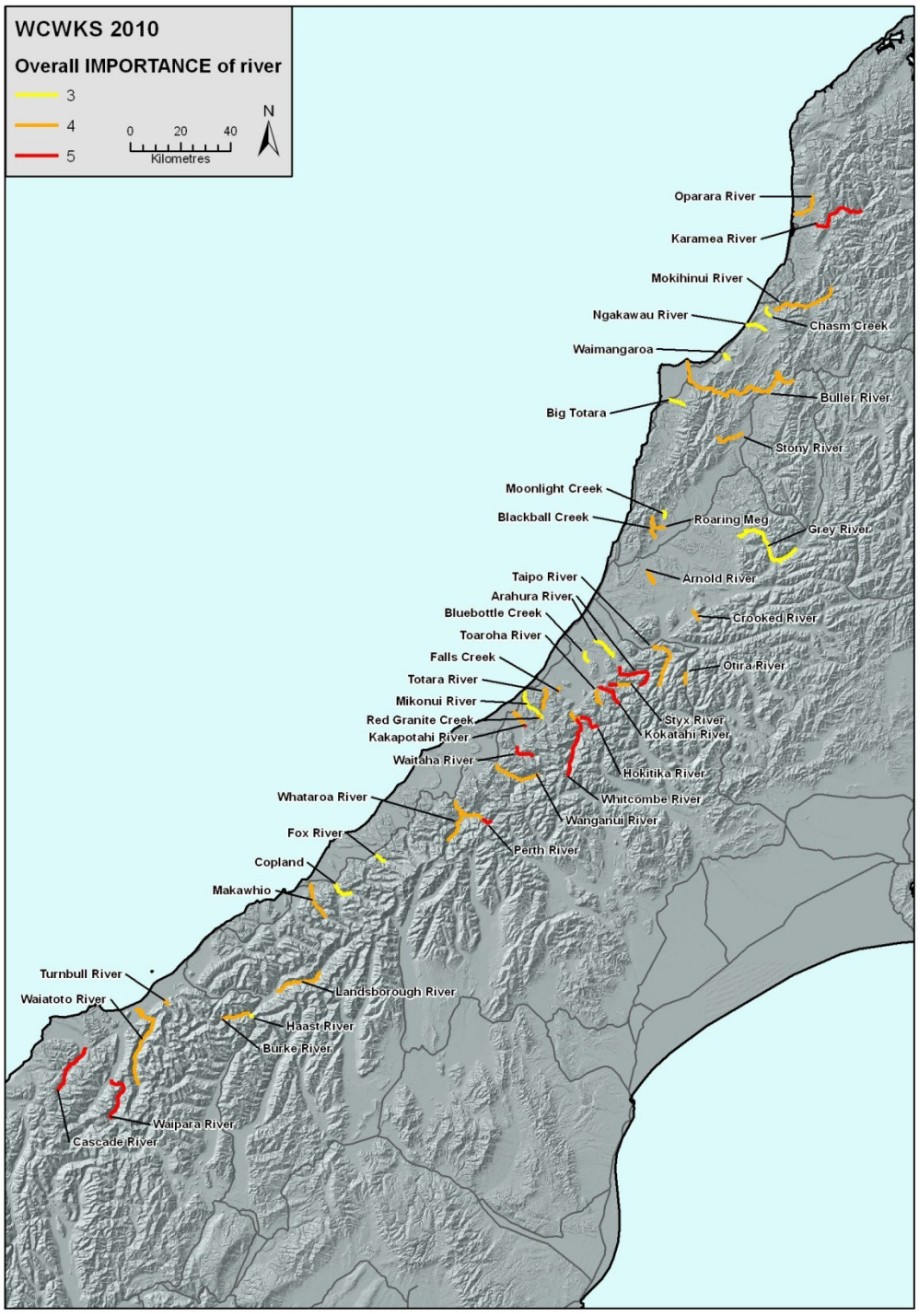
This map shows the higher density of rivers in the central part of the West Coast, but also popular rivers in the north (for example Karamea).



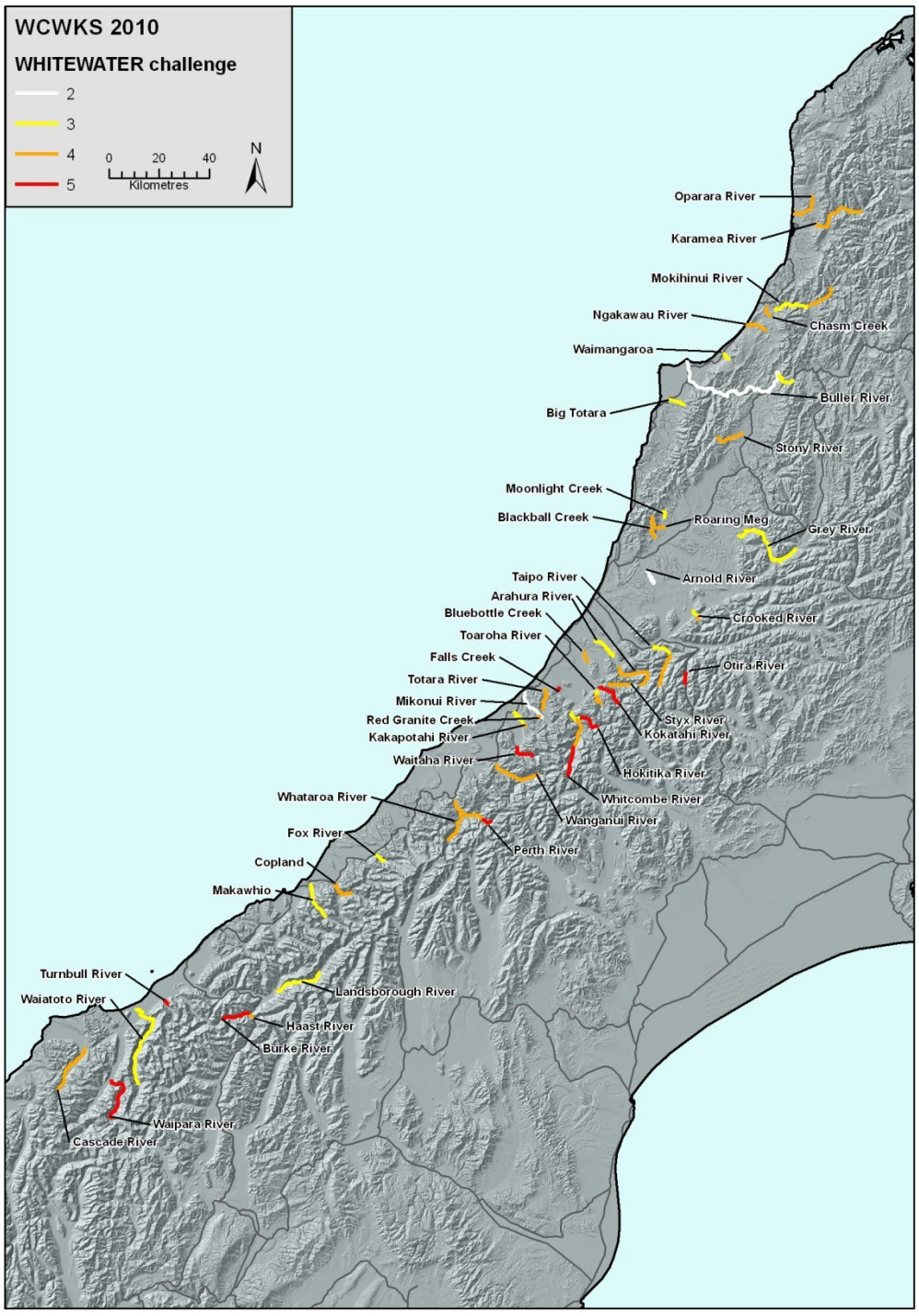
This map shows how many times respondents returned to a river. It is clear that most rivers are paddled rarely by most respondents, perhaps because so many live away from the West Coast. There is a cluster of busy rivers in the central West Coast. The Waimangaroa and Copland have very few actual numbers of users.



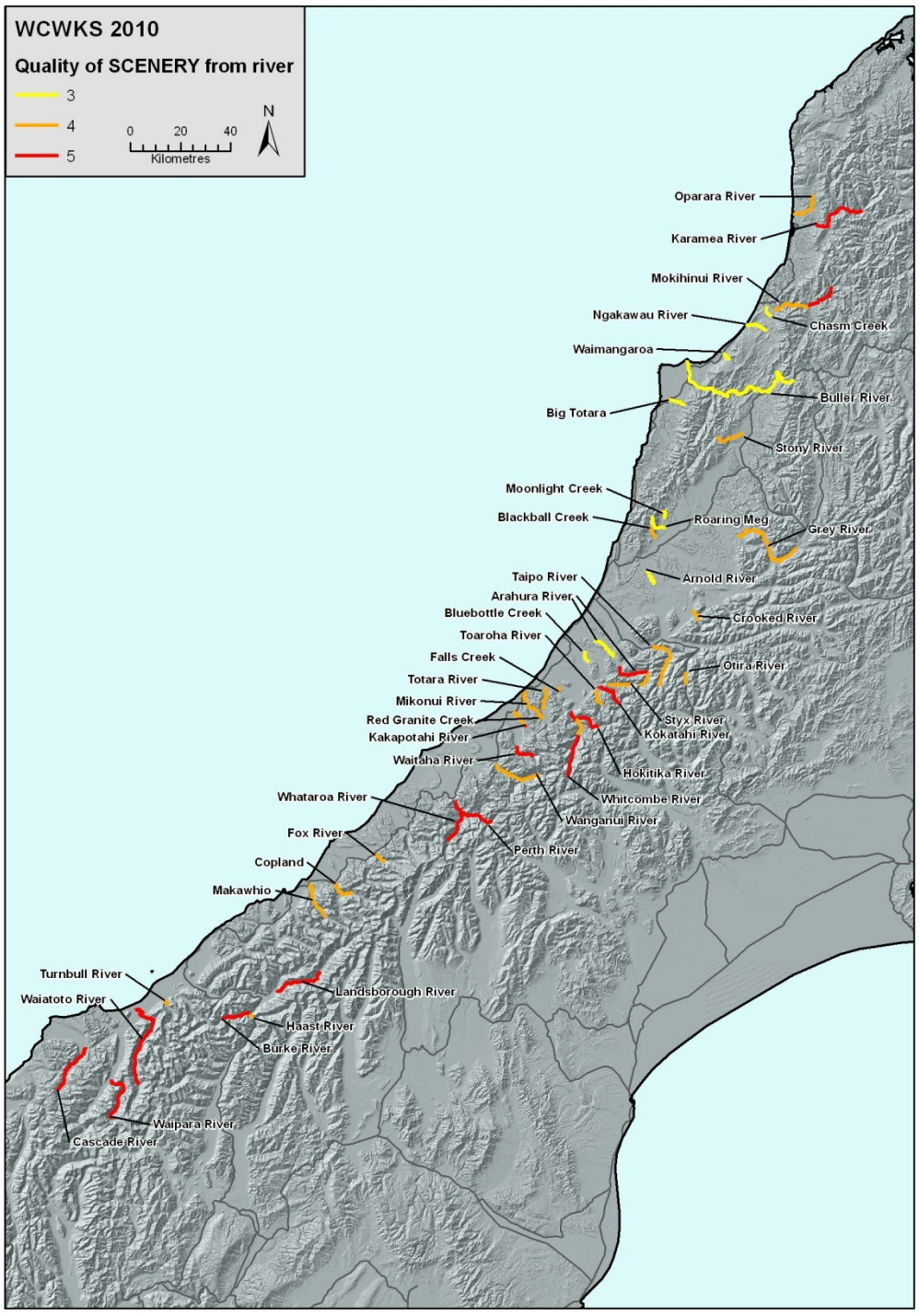
This map shows that international visitors tend to travel widely on the West Coast, but still cluster in the central part. The Makawhio, Roaring Meg, Waimangaroa and Ngakawau have few users so are potentially misleading.



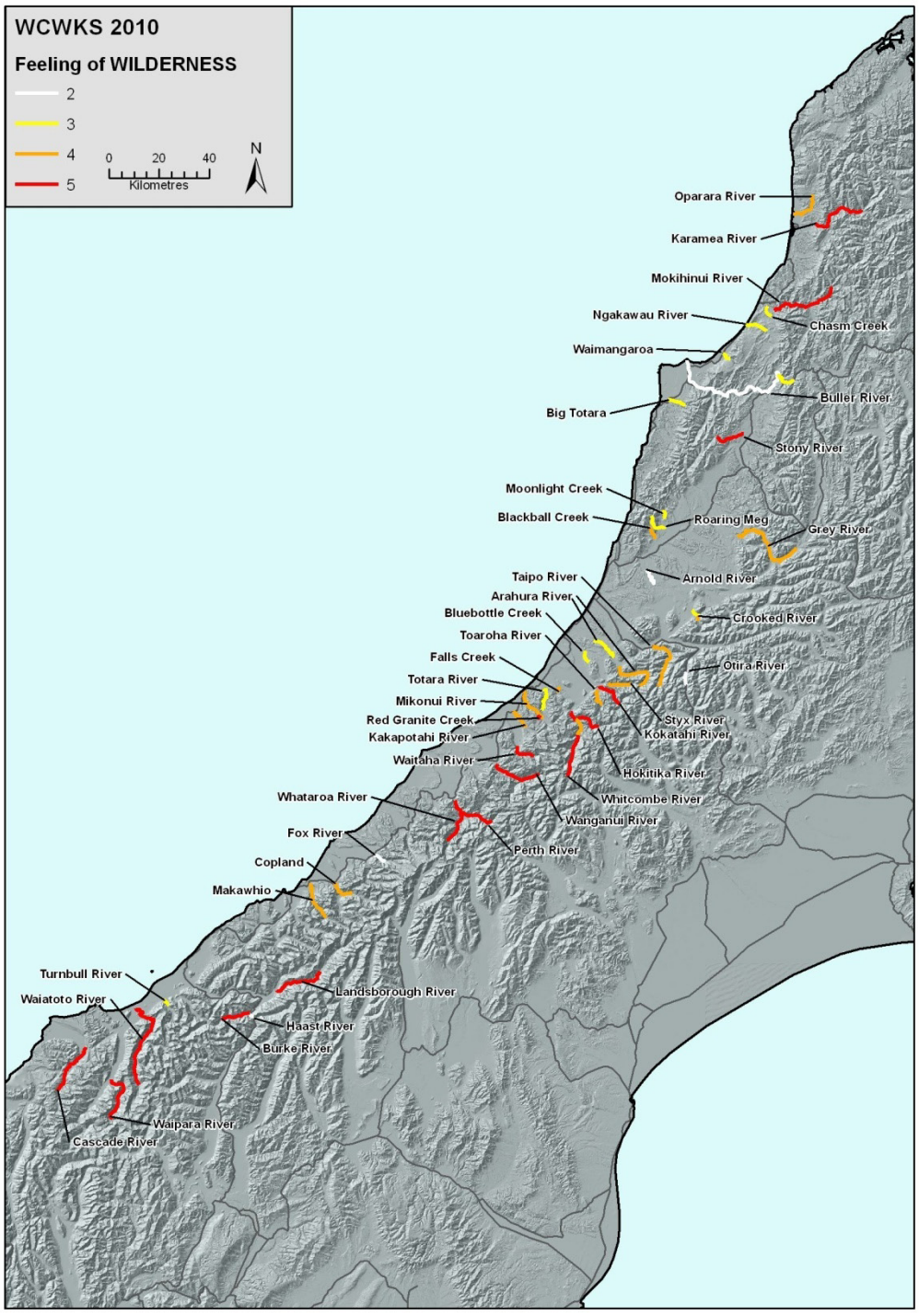
This map again emphasises the central West Coast cluster. The Cascade and Waipara have very low user numbers due to DoC access restrictions but have been rated very highly by the few who have been there.



This question has been criticised by me in the Assessment of Data section. However, the map shows a cluster of rivers in the central West Coast valued highly for their whitewater.



This map shows the very high quality of scenery offered by most West Coast rivers, with a spread throughout the region. There are clusters however in the far north, far south and again in the central West Coast.



Wilderness experiences are rated highly throughout the West Coast, with clusters around the far north, far south and southern central West Coast.

Question 3

This was an open ended question to invite longer answers if respondents wished to, for qualitative research purposes. It was pleasingly well completed. The paragraphs below are copied directly from the survey in their entirety, without editing, so may contain typos/spelling mistakes.

1. If you would like to describe what the West Coast rivers mean to you in your own words, please write a comment below.

Text Response
iv only been to the west coast twice, once with polytec the other on my own terms. the place is beautiful, inspiring and challenging. choppering (helicopter) in is a unique experience and the feeling off the chopper flying away as you are left there is one of the best experiences iv had kayaking
Pristine, crystal clear water and stunning gorges are what most people come to the coast for, and these qualities are second to none in the world. In addition to these rivers there are a range of other rivers which offer different, yet equally fulfilling experiences, such as flood runs which utilize the frequent high rainfall periods. The wilderness aspect of kayaking trips here adds another dimension and also means that theer are still new rivers to be explored. This creates a level of interest above the regular, classic trips that we know and love. The active tectonics of the Southern Alps have produced truly unique rivers which deliver a 100% pure kayaking experience.
West coast rivers are scenic, remote, unspoiled and accessed by few.
The west coast rivers are like no other. In a short area along that coastline their are a large variety of rivers for a large variety of paddlers. The wilderness feel on these rivers is amazing. Combining helicopters or walking up to a river through west coast bush is like no where else
The rivers of the West Coast of the South Island are the pinnacle of many NZ Kayakers desires, they are rivers that have great respect for both their natural beauty and their rapids. I personally haven't paddled as much as I would like on the West Coast because I'm careful about with who I paddle, and when. While I am comfortable I could paddle many of the hardest sections on the coast I have no desire to push myself in this way, a trip on beautiful, scenic, or hair-raising river is something I like to share with good friends. The sections I have paddled on the West Coast don't rate highly in terms of difficulty compared to some of my other paddling, but they are some of the most memorable trips I have done. This is due to the nature of the West Coast's river and the distance you need to travel via foot, car or helicopter to access these incredible river gorges. I'm happy that my memories of paddling on the West Coast are with some of my best friends in the world, and are stuck vividly in my mind as reminders of why I love to paddle. The West Coast of New Zealand is a very special place for kayakers; which could be compared to the Swiss Alps for climbers, or the Hawaiian Islands for surfers. It is a special gem in New Zealand's recreational crown, standing tall not only for New Zealand Kayakers but also internationally as one of the 'must-visit' destinations. To have the variety of rivers on our back doorstep is a blessing, one that will keep my going back for more, again and again.
The west coast has quality, wilderness whitewater that seems unlike anywhere else in the world. It's challenging, it's fun and it's beautiful.
From what I've heard and my limited experience (two trips) I feel it's one of the greatest kayaking regions anywhere
The West Coast rivers of New Zealand remain some of the most unspoiled and beautiful in the world. As a Canadian, I appreciated the brief exposure I had to these rivers and hope to return again.
The ultimate in wilderness, scenery, and high risk kayaking. Not a place to boat for glory, just pure clean exciting fun.
great place to push my kayaking skills and take me out of my comfort Zone. only been there once but will deffently go back many times because it is a easy place to travel to from sydney Australia compared to the rest of the world.
Something that I aspire to paddle, I am just getting into kayaking and developing my skills. I would

liken the harder west coast runs as to getting to an NPC level Rugby team. In both that you need to have a good skill to run them but also in that its been a dream for a ling time much like a childhood dream to play for Otago.

easy-accessed wilderness (if you don't mind walking) with challenging whitewater & awesome scenery....no-one else around. love it.

I travelled from Scotland to NZ purely for the reason of getting to the world's best kayaking location. I kayak to get away from industry, away from politics and away from the stresses of daily life; in New Zealand's West Coast of the south island I found these remote rivers that had no polution, indutry built into them and were surrounded by no politics...as many are in the UK. By kayaking in you country I not only experienced the unique rivers that are unmatched anywhere else on the planet but by doing so I also travelled throughout the country visiting every corner and some amazing people on route. In short, the mistakes that are being made in Scotland in terms of hydro-power and the destruction of the country side and its biodiversity are mistakes that should not be mirrored in NZ; the gains of Hydro-power and so called green energy are by far out weighed by the loss you would see in tourism revenue. Play to your strengths...your countryside!

One of the most magical places to go boating in the world

The ultimate river running playground in the World.

West coast rivers are an incredibly special commodity we have in this country. There are all unique. They all have features and scenery that can benefit and create enjoyment for people of all skill levels. I am not a particularly good paddling but I look forward to the day that I can take full advantage of the West Coast rivers. The wilderness, quality of the whitewater and high calibrate of paddlers on the Coast may this something to strive to be apart of. I am not sure that there is such a place anywhere else...

The west coast has to be the best playground for all outdoor sports, especially kayaking. It has it all, scenery, quality and quantity of good user friendly and hard whitewater. I came to NZ to live, and be closer to the west coast, its that good. I and every other person that gets to see it, in its nature wild state have been granted a wish.

The West Coast is a unique area as it has a huge diversity of whitewater rivers, catering for every kayaker, from grade 1 and 2 through to stout 5+! This is the great appeal of the West Coast to me, as I can go for a few weeks to the Coast and paddle a great range of rivers as I am not particularly interested in running grade 5 everyday, and enjoy the less challenging runs like the Toaroha for a mental reprieve. I also thoroughly enjoy being in such pristine environments of this beautiful country. The West Coast amazes me as nearly every valley in the mountains contains a classic kayaking run given the right amount of rain. It is such a great place to go to for a kayaking mission as there is always great kayaking guaranteed to be had. Lack of access in many of the areas is also part of the appeal. I enjoy the challenge of bush -bashing my way into the top of a river, and the commitment of having to kayak out. The West Coast is a great kayaking destination with a great diversity of runs.

The west coast of New Zealand is a unique paddling experience: the helicopters, the style of river, the wilderness, the gorges, the long days, the ever-changing rivers. After paddling in New Zealand, I came to regard rivers will new eyes. Lines now appear on rapids which initially seem unrunnable by putting together a sequence of rock grinds, bold ferries and charging boofs. Also, the inaccessible nature of the rivers, plus the difficulty of scouting and making portages in deep gorges dramatically increased my maturity as paddler. New Zealand forces you to get creative both with lines and portages. At the risk of sounding like an old man, the west coast sorts the men from the boys.

mind blowing scenery, accessible but with an inaccessible feel, highly committing big river days out. some of the best paddling in the world!

The west coast rivers are worth traveling to the other side of the world for! Combination of sun, stunning surroundings, challenging whitewater and relatively easy logistics are unique.

A chance to go away from the mundane world and experience something that really matters.

Stunning wilderness, difficult boating, scary and big rapids, serious wilderness commitment, thick forrest, clear pristine water, helicopter accessed, few people, rain dependent, worthy of travel from the USA for the West Coast alone! Easily ruined by development. One of the best kayaking destinations in the world.

Helicopter jorneys over stunning landscape. This is such an allsome way to get into a river, it set the

scene for a real adventure. flying up the whitecombe gorge was unforgettable. Inpenetrable forest on the Mokihinui gave the trip a feeling of committment and then the flooled dead forest half way down was indiscribebly amazing any minute I expected to see a dinasaur.

The ability to have world class whitewater in outstanding scenery with water you can drink. Almost as perfect as you can get.

The West Coast has a wide range of unique and extremely challenging rivers. Its rivers are closely located (condensed) along the west coast and have varying features which are excellent for class grade 4 and 5 kayaking. The scenery is spectacular, with each river having unique scenery and speacil features and many offer a real wildenss experience. The west coast offers alot for the top end kayaker looking to push the limits of their ability in a wilderness area. The rivers and its surroundings are generally free from urbanistyion, industrialisation and pollution.

These rivers on the west coast are legendary around the world for their beauty, technicality, and just a spectacular place for people to come to. Kayakers all over the world have heard about the west coast, and alot of great paddlers travel to new Zealand just to experience them. Alot of people find them more accessible than other harder rivers around the world, helicopters are alot more affordable in NZ. I was lucky enough to go on a 3 day raft trip on the Wiatoto river late last summer, and it was the best trip i have ever been on. I work as a raft guide all year round, in any places in the world, and have been on many once in a life-time trips, but this Wiatoto was by far the greatest. Many, many times through the 3 days i ssat dumbfounded and awed by the surroundings, truely the most beautiful place i have been. And probably the best way to see it, floating down the calm sections, and paddling furiously down the intense grade 5 sections. It really had it all! New Zealand rivers, and especially the west coast rivers (as these are the more remote, specialty rips that i get excited about weeks before they begin, and cant sleep the night before) are what make me so proud to be a Kiwi. my job is to take tourists on river journeys, and Im always so proud to show off what NZ has to offer. There's nothing as good as the first few trips when you get back form overseas, where i just float in amazement, reminding myself how lucky i am to be there. And this is just floating down the grade 3 Buller! This feeling is captured for days when its a more exciting trip down the Karamea or Mokihinui. I love it. Thats all.

Its a place I go to challenge my skills or lack of aginst the water. Usually their with excellent mates. The areas we go are truly untouched and it is the best place to block out all of lifes other worries. Scenery is ok as well

Whitewater challenge and beautiful wilderness scenery. Paddling West Coast rivers makes me feel proud and blessed to be a kiwi :)

Wilderness; Beauty; A good day out; Something to be protected; The ones i haven't done yet are a good reason to keep on paddling. Adventure.

Wild special ans wonderful places to test and perfect paddling skills. Allows people the opportunity to paddle wilderness rivers with helicopter rides. Fantastic challenging water accessible by car or by foot. The west coast is the ultimate paddling destination if the weather god are being kind

I've only had one trip to the coast, but it was unreal. Some of the best boating I've had in 15 years of kayaking, 15 different countries. There are enough awesome rivers there to keep me busy for a lifetime!

West Coast rivers make me proud and happy to be a new zealander and live in this country. They are in that part of my soul that keeps me spritually healthy and wanting to be alive. To me, destroying these rivers to generate money is akin to murdering a national hero because it will profit some shareholders somewhere

My brief trip to the West Coast in 2002 changed my notion of what a river can be. Beyond the high-quality whitewater, the adventure of a helicopter shuttle is still a unique experience in my 15 year paddling career. As well, the scenery and pristine water quality are unlike anything I have experienced since. Simply put, we Americans are not used to drinking river water, yet that is a matter of course on the West Coast rivers I paddled. The time I spent kayaking on the West Coast remains one of my fondest memories.

The rivers of the west coast mean more to me than almost anything else in my life. i always look forward to the next opportunity that i have to paddle any one of its beautiful rivers. to lose any river from the west coast would be a great to me and the entire paddling community.

Amasing, wilderness rivers at a great range of levels, the best kayaking in nz.

West Coast rivers are hugely important to me, although I don't paddle them as often as I would like these days. My best days kayaking have been on West Coast rivers. They are a fantastic combination of quality whitewater, stunning scenery and pristine wilderness. I love West Coast rivers!
I consider rivers to be very spiritual places... I suppose some people have connections to mountains, or the forests, but for me it has always been rivers. I think the shear range of the rivers and creeks of the West Coast is quite unique. The high number that are so pure and untouched certainly is. Kayaking, a truly defining activity of my teenage years, was made possible by the easy access to these rivers - for that fact alone, west coast kayakers are exceptionally fortunate.
west coast rivers are the primary reason for living in hokitika, they are a frightfully pristine environment which I feel privalaged to be able to use, the offer a great adventure, a great challenge, I appreciate that their character is unique in this world,
The west coast rivers have opened my eyes to a whole other world. I came to NZ 3 and a half years ago, and had never kayaked before. My first river trip, 3months after my arrival, was to murchison and the buller. It blew my mind, the scenery, people and the enjoyment i got from kayaking. I now intend on staying in NZ the rest of my life, using the degree i've nearly finished in physiotherapy to get a job on the west coast so i can make the most of this awsome country.
One of the seven kayak wonders of the world. Inspiring scenery and landscape, very challenging rivers, variety of rivers, steep, volume, awesome place to come and unwind, friendly locals and an all round good place to relax and unwinding by scaring the hell out of yourself and challenging your skills.
Personally, I am from Australia, and have only been kayaking there once so far, but have paddled a few different countries around the world, and New Zealand was my favourite, and am heading back later this year. The west coast offered a different style of paddling to everywhere else. The Heli trips were my favourite. Been so remote, where you can only get there by helicopter makes the trip so much more enjoyable, memorable, and special! Close behind the heli trips were the cold river trips. The ones based from glaciers were scenicly beautiful, and great fun rapids. If it were not for the west coast rivers, I would most likely not go back to NZ for kayaking.
ive traveled with a kayak to over 30 countries, participated in several major kayaking exploratory international expeditions, and i remain absolutely convinced that new zealand, specifically the west coast, has the most unique and most beautiful wilderness kayaking experience to be found anywhere. stellar access with helicopter dropins, hard walk-in access, and remote and unspoilt pristine wilderness settings with true adventure challenge makes the coast a destination for any elite kayaker, and is the reason i moved to new zealand and bought land on the west coast! thanks for all your hard work andy, well done mate!
The Waitaha is my favourite, beacause of combination of a long , challenging trip, with stunning scenery. There are sections on the limits of possibility, and committing challenges. Also a larger river volume than many of the west coast trips, and consistent whitewater right until the end .
Absolute wilderness. Kayaking places that you can't see otherwise. Totally remote, challenging, and unique.
wild river canyons. every river i have paddled from the easy crooked through to the challenging 4/5 all have amazing canyons and a real sense of wildness and remoteness. this is further heightened by flying in and then paddling out
An amazing opportunity to kayak continuously over a short holiday period (in this case 2-3 weeks on vacation from west australia). To make a big step-up in terms of experience and confidence, to learn from the manay other good kayakers in that part of the world. To experience the scenic and spiritual beauty of the place. A must-visit area on the world whitewater circuit.
Kayaking in the West Coast is unique. I have paddled all over the South Island and seldom have I found a river that is as noteworthy as those on the Coast. It is challenging to find rapids of a similar continuous nature. Being in the middle of no where, with a few close friends with a full day of challenging kayaking ahead. Amongst an amazing backdrop
The west coast is the heart of whitewater in NZ and I just love the place
The Rivers of the West Coast of New Zealand are Quite simply Unique from a Global perspective. There is no where on the planet that offers such accessible wilderness trips of such a high quality of white water in unique ecosystems, often on crystalline water, almost always with the highest level of technical river running.

I am an Australian Kayaker, so it's not too hard to get to NZ. I have only been to NZ/West coast once, but that's all it has taken to get me hooked. I plan to come back many times in the future! There are so many absolute quality rivers, both in terms of the whitewater and the wilderness/scenery on the West Coast. Having numerous options available whilst being based out of a central location make it easy to organise a paddling holiday and explore the many beautiful rivers the West Coast has to offer.

I have been paddling for 12 years. I solely paddle C1 from Auckland. I have spent part of the last three summers in the SI paddling and have been paddling to the coast twice. The west coast rivers offer some of the most isolated and remote paddling in the country while still being day trips. I would love to be able to spend more time on the coast getting a heap of new runs in

The west coast is a real mecca for kayaking. The wilderness is wonderfully unspoiled. No roads, power lines, cutlines.... Access is simple with helicopters and there is a great kayaking community and attitude in the area. The overall beauty and easily accessible remoteness is truly one of a kind.

The West Coast rivers are some of the most exciting boating I have ever done. Coming from Alaska means I get in some mid-winter action, and that's good. It's also a place that sets great walking against world-class paddling and I enjoy both of these activities.

i really enjoy the the kayaking there. it´s cool to fly up. tghe scenery is really nice an a lot of good kayaking close together. it´s big fun

I was very impressed with New Zealand's west coast rivers. NZ is very fortunate to have such a resourse and it is the reason I spent a great deal of money to experience NZ rivers over all other southern hemisphere options. I think NZ is challenged or will be challenged with how to manage these resourses. I just hope NZ will see the value in its wilderness resourses as opposed to the value of that same water as hydro-electric power or agricultural/urban sprawl. I hope NZ will learn from some of the mistakes the US has made and some of the mistakes Canada is making now. I'll be back if the west coast rivers remain pristine.

The best that I have ever paddled. Some of the best moments (excitement, beauty, serenity) of my life. Easily some of the most beautiful spaces on the planet. Well worth the 14,000km round trip. Well worth the $3,000 plus cost each time. Unique. Irreplaceable. Priceless. Undervalued. Relatively unknown.(Except to the fortunate few)

The west coast is the pinnacle of nz kayaking. cheap helicopters, mostly good flows, good people. Its always been th main trip of th summer, as it was rally a once a year trip from wgtn, thought now much more accessible from the south island!! Theres just nowhere else where you can paddle such amazing white water with beautiful blue water day aftr day, with so little driving. cant be beaten.

I am from Switzerland, where most of the rivers are damm controlled. So the west cost rivers are the real meaning of free runnig, natural rivers in one of the most beautiful areas of the world.

The West cooast is a an extremely unique area for kayaking. World class challenging whitewater along with mind blowing scenery and true wilderness ,ake this one of the best places in the world to kayak.

The West Coast of the south island is a Treasure of more than just the country, but the world. People travel from all over the world to just have a chance to paddle on these rivers. To me these rivers are a right of passage for any kayaker who wishes to hone his or her skills to progress in the sport. It is a feeling which cannot be put into words to write on here but has only to be experienced to be understood.

Amazing times, fun, recreation and enjoyment with other people and Gods creation

I live in Perth, Western Australia. Paddling on the West Coast of New Zealand is an amazing experience. I have paddled around Murchison for 4 years in a row and last year paddled the West Coast for the first time. The white water is amazing, the scenery incredible and the feeling you get when you get dropped off by a helicopter into the wilderness is incredible. I have a group of friends in Perth who have also paddled Murchison and the West Coast a number of times. Its an amazing and unique experience and it would be a travesty to lose it.

West coast rivers embody what white water kayking is truely about - hard, remote and with poor access. Nowhere else can you get so far out into the wilderness so quickly and get yourself a whole lot of adventure.

This is a world-class paddling destination. I visited in 1999/2000 and have planned to return ever since. Hope to come back soon.

Heading to the 'Coast' can be a bit of an adventure. I'm a grade 4 paddler, so there is so much on

offer. The adventure part comes from the uncertainty of the weather. With rain falling different trips will happen. It is also a real treat, as most paddling is don't when time exists, usually measured in single days.

The beauty, wilderness, quality and variety (something suitable for lots of different abilities)of whitewater in such a small area is hard to beat anywhere else in the world.

I came to New Zealand four years ago to paddle, I am now trying to gain residency and one of the main reasons is due to the kayaking provided by the West Coast Rivers. The place is a gem, and I hope to explorer more as the years go by.

this is my church, this where i go to heal my hurt..... well acutully the west coast is main source of kayaking in NZ. i regulary travel from palmerston north to use these waterways as they are the best in nz. extremely important

i wouldn't be who i am without growing up with these rivers!

I'm older, my kayaking used to be about challenge, now it is about having a relaxed outdoor experience with a small bit of challenge. Your survey doesnt cover urban kayak experiences such as Sawyers Creek or the Greymouth lagoon or Arnold River from the lake to the dam, or the river/lagoon next to Paroa Pub or the one along side the Ruatapu Ross rail line, also Kawhaka Creek. I think there is quite a bit of kayaking happening that is flat or grade 2, close to towns and quite a bit happens when there is a fresh in some rivers/creeks which are not usually doable. Not sure if you want to capture any data from rafters either, both commercial and freedom rafting. All the figures above are for kayaking only.

West Coast rivers are a pure wilderness experience where the soul can connect with the pristine natural environment and be rejuivinated. It is a refreshing experience, and can be very spiritual. My interaction with the water on the West Coast rivers gives me an appreciation for life that is hard to be matched.

Adventure boating where every move counts.

West Coast rivers are the essence of wilderness whitewater in the New Zealand context. I came from Alaska, where we have lots of wilderness experience, but there is no boating in the winter. The kiwi summer was grand and many West Coast rivers offer both the great wilderness and quality outdoors experience as well as world class whitewater and rapids to run. It was a great trip and I'd do it again in a heartbeat.

the unique landscapes, river environments and individual rivers are the reason I travel to NZ from Australia - the rivers and their surrounding environments are breathtakingly beautiful, sometimes stark, sometimes foreboding, usually challenging and exciting.

There is a huge variety of river styles on the west coast and great technique to be learnt from them, I am only learning kayaking so have not yet hit the higher grades but the ease of access and abundance of rivers on the coast means its easy to learn and push yourself within safe limits and gradual steps

having just started kayaking at polytech this year having the arnold to learn on was great. just having a huge range of rivers to progress on in the grade 2-3 range is awesome. having rivers like the styx and others down that way that i can hike into with friends that are better and put in lower down so everyone gets a peak experience is awesome. its the perfect place for kayaking

Having only been to the coast for a long week in Mar 2009 I haven't paddled much there but the rivers I did do were brilliant - long enough to keep you interested all day, with many good hard rapids and some great chill-out sections to relax and enjoy the wilderness. The wilderness experience is great, the fact that from almost any of the rivers it's at least a days hike-out if you had any problems.

pristine scenery, epic day adventures, kayaking with great friwnds, trusting group, pushing limits

A chance for learning and a good time. Due to my raft guiding and kayaking skills being assesed as part of course completion for Polytech, west coast rivers allow me to enhance these skills over a large variety of rivers, with varying grades and a range of features. Nothing beats paddling with a bunch of friends when there is amazing weather and a good flow.

I've paddled all over the world for many years but my favorite place to paddle is the west coast. I really enjoy the consistency and quality of the whitewater there and find it very engaging.

Amazing quality of rivers and pristine wilderness in a rugged remote location. Truly one of the best paddling destinations for wilderness kayaking in the world.

the best paddling in the country ---quality of scenery, wilderness, whitewater AND you can drink the water which is very special.

Clean drinkable water
The chance to paddle on the Coast has been an awesome opportunity + privilege for me... I've never been overly good at sport + paddling seems to work for me - great mates, great scenery, great times... a chance to both challenge and scare myself, get away from the rat race and lap up feeling strong in the outdoors.
Have only been on two paddling trips to west coast rivers (other than Buller which have visited alot more) - was impressed by the scenery and the remoteness on some of the heli trips - a chance to see a part of New Zealand alot of others don't get to see. Find the whitewater and the length of the trips challenging - alot different from North Island rivers that usually paddle - would like to do more .
Great place to find adventure and have fun with friends in some fantastic surroundings.
Every summer for the last 6 years i have been traveling down the to south island to paddle. The west coast has the style of rivers that i like. Low volume, boofy continus, beautiful rivers that are really close to a town that i love to stay at. The west cost has rivers mountains beachs all at the same time. I see the west cost rivers as where the real adventure kayaking in New Zealand is. Coming from the kaituna and Wairoa, they just dont give the same sence of wow I'm a kayaker.
I have been whitewater kayaking for around 3 years and have only recently considered my skill level high enough to start paddling some of the classic West Coast rivers. I haven't paddled many, but now that I have a taste for the rivers of 'the coast', I can't stop thinking about them. It's mainly the beautiful lush green rainforest, contrasting against the incredible baby blue or deep green water, as well as the stunning rocks. But its also the quality of the whitewater. These two factors combined (scenery and whitewater) are the most important and appealing factors for me. But there's more to it than that, paddling on the coast is a whole and full experience, shaped largely by the west coast environment. Parts of this experience include isolation (getting away from the city and into the wilderness), commitment (many of the runs are literally in the mountains, in a very weather exposed section of NZ, with access difficult, normally by foot or helicopter, and rescue a long way off), and adventure (flying in to the Hokitika or Arahura, and knowing the only really feasible way out is to paddle downstream is much more adventurous than launching from your car at the get in for the Hurunui, knowing that the road is always at hand). There are many different influences that shape a West Coast paddling trip, with most, if not all of these influences being impossible to explain in words, and perhaps they shouldn't be. Words seem incredibly insufficent for the magic that is the West Coast rivers. It is surely something that must be experienced in order to understand and comprehend what is so special about them. A quote from the movie 'The Castle' best sums up why I love the West Coast rivers: "It's the vibe of it".
They are the a incredible natural creation with stunning beauty and enormous adventure potential. There are a couple of these rivers that would a similar national significance to me as say, Mt Cook or Mt Aspiring!
A place in my own country where i can go on some of the best paddling adventure in the world.Where the water is crystal clear the people speak english and the logistics are prettt easy.Something that is rare and worth protecting.
West Coast rivers are the ultimate kayaking destination in that they are located in such a vast wonderful landscape and they provide challenges of various levels often rising as you go further upstream. Generally they are devoid of human activity and require effort and planning to negotiate but equally the rewards are extremely memorable and long lasting. West Coast rivers are where you begin to realise what it means to be at one with the river and just how small and temporary we kayakers are!
These are some of the best whitewater kayaking rivers in the world and are a destination for most international paddlers. Their challenging rapids, reliable flows, great beauty, proximity to each other and wilderness value make them extremely valuable resources. They need preserving.
West Coast Rivers are a national treasure for New Zealand. Many of the rivers there are near the upper limit of my current kayaking ability, and many are above my limit, but they challenge me. I live far away, in Wellington, but I love to visit the West Coast each year (if only the ferry was cheaper, it'd be more often!). The West Coast rivers are among the most scenic in New Zealand (what I've seen and from photos)- e.g. I was super-impressed with the scenery on the upper reaches of the Karamea. The Buller area is also a complete gem for kayaking in mixed-ability groups, no worries about waiting for water (especially in summer when many North Island rivers are dry), an unmatched social scene for kayakers over New Years, many sections to choose from (Earthquake, O'Sullivans,

Granity Creek, etc. and other rivers like Glenroy and Matakitaki etc.), easy access and few portages. Once again, if only the Picton ferry was cheaper, I'd be visiting frequently as it isn't far by car. [Of course, the North Island rivers are great too and bring kayakers much joy, so I don't want to belittle these, my bread and butter. Things are a bit dry there in the summer except for staples like the Wairoa releases, Kaituna, Rangitaiki, guaranteed-flow Tongariro Access 10 and the Mohaka. The Buller and West Coast are a good way to sidestep the dry in the north.]

west coast rivers to me are a great mix of fun rivers i can use a play boat on and really enjoy (eg Arnold), places where i can challenge myself without severe real risk (eg toaroha) and have occasional top challenge experiences (eg lower canyon hokitika).I am not one of the "best" kayakers out there, and dont really aspire to paddle the big gr5 trips, but that they exist on the west coast is an inspiration, especially as the lower reaches of the hardest trips have easier bits. (eg lower perth has lower get ins). this means i can also have something in common with the "best" paddlers and feel part of a bigger community. the rivers on the coast are quite inclusive. They are also a great place to really get a wilderness feeling when paddling. lots of the rest of nz feels close to farmland etc, but the coast has a different aesthetic and feeling. some of the senic features of some rivers are breathtaking. if anything the great number of cleanwashed gorges devalues them somewhat, if only one gorge existed it would be cherished, but most westcoast rivers have a great gorge, so we feel they are commonplace. They are but only on the coast. The coast is also an easy place to go to as it has a big collection of rivers close to each other. This is one of its greatest strengths. A variety of trip destinations and rivers experiences is easy to do. things are not too far apart, and the logistics of cars or helicopter access is easy to sort out. the west coast rivers are easy places to teach beginners. This is one of my main passions these days, so i really enjoy introducing others to the sport in such great scenery and hydrolic variety.

West Coast rivers represent utterly spell binding environments that offer me a range of challenging whitewater opportunities and wilderness experiences, each unique in character, intensity and diversity.

Awesome times on some of the best rivers in the world.

West Coast not only have the variety of runs to test your skills and headspace, but they provide the opportunity to escape all the things going on in your world at the time, and put you in a space where nothing really matters except the river, the wilderness, and your interaction with it. I can't think of any better rivers to recharge ones mental batteries.

Something only those with the determination and patience to wait for the right time, and the right team to conquer some of the toughest rivers the planet has to offer. Legendary paddlers are still challenged on rivers on the west coast but it offers even beginner creek boaters something as well. If the rivers are taken away, the pinnacle area of New Zealand whitewater rivers will never be the same again.

West coast rivers are the pinnacle of free flowing kayaking in new zealand and a amazing holiday destination. Some of the most beautiful and challenging rivers in the world.

As a tourist paddling around New Zealand and many other countries, I found the rivers of the West Coast had a huge effect on me. I simply loved hanging around in Hokitika and on the beach waiting for the perfect flows on the next river on the 'hit-list'. The rivers were as beautiful as any i have seen, the rivers were far cleaner and clearer than any i have paddled before or since and the quality of white-water led to some truly memorable experiences with great friends along the way. I would love to live on the West Coast if I could!

Open ended question 3 summary statistics

Total Responses	212
Word count	6614
Word frequencies:	
wilderness	40
whitewater	27
scenery	26
unique	22
beautiful	19
adventure	15
helicopter	17
pristine	11
variety	10
beauty	9
range	9
scenic	5

Question 4-13

This question explored the respondents' demographic profile, to help to explain answers in the other questions. It also provides a valuable insight into the whitewater kayakers of the West Coast region.

Are you:

Answer	Response	%
Male	214	81%
Female	51	19%
Total	265	100%

What year were you born? (omission means zero)

Answer	Response	%
1925	1	0%
1942	1	0%
1947	1	0%
1948	1	0%
1950	1	0%
1951	1	0%
1952	1	0%
1953	4	2%
1954	2	1%
1955	1	0%
1956	1	0%
1957	1	0%
1958	1	0%
1959	2	1%
1960	4	2%
1961	2	1%
1962	2	1%
1963	4	2%
1964	7	3%
1965	7	3%
1966	8	3%
1967	6	2%
1968	6	2%
1969	7	3%

1970	5	2%
1971	8	3%
1972	8	3%
1973	7	3%
1974	9	3%
1975	13	5%
1976	5	2%
1977	10	4%
1978	13	5%
1979	10	4%
1980	4	2%
1981	13	5%
1982	12	5%
1983	7	3%
1984	4	2%
1985	9	3%
1986	5	2%
1987	9	3%
1988	8	3%
1989	12	5%
1990	11	4%
1991	10	4%
1992	1	0%
Total	265	100%

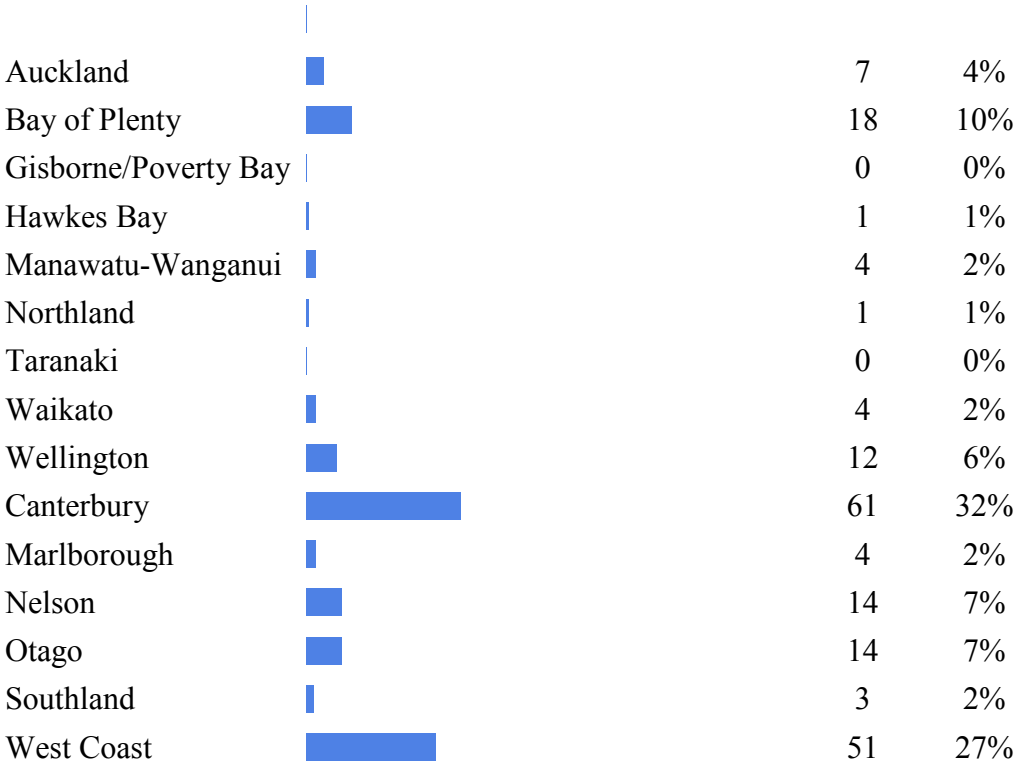
What country do you come from?

Answer	Response	%
Australia	12	5%
Canada	8	3%
Germany	3	1%
Italy	1	0%
New Zealand	189	72%
Norway	3	1%
Switzerland	2	1%
United Kingdom of Great Britain and Northern Ireland	22	8%
United States of America	21	8%
Total	261	100%

If you live in New Zealand, how would you describe your ethnicity? You can select more than one option if appropriate.

Asian	1	1%
Maori	7	4%
New Zealand European	174	92%
Pacific Islander	0	0%
Other	16	8%

If you live in NZ, in which region do you live? If West Coast, please say where.



Auckland	7	4%
Bay of Plenty	18	10%
Gisborne/Poverty Bay	0	0%
Hawkes Bay	1	1%
Manawatu-Wanganui	4	2%
Northland	1	1%
Taranaki	0	0%
Waikato	4	2%
Wellington	12	6%
Canterbury	61	32%
Marlborough	4	2%
Nelson	14	7%
Otago	14	7%
Southland	3	2%
West Coast	51	27%

West Coast	Number	Percent
Greymouth	20	50
Hokitika	16	40
Dobson	1	2.5
Fox glacier	1	2.5
Runanga	1	2.5
Westport	1	2.5

Note: some respondents included Murchison, which is in Tasman, as West Coast.

What is the highest level of formal education (or the equivalent if outside of New Zealand) that you have completed?

Answer	Response	%
High school, no qualification	6	2%
High School with qualifications	24	9%
Trade/technical qualification or similar	17	7%
Undergraduate diploma/certificate	41	16%
Bachelor's degree	105	41%
Postgraduate	66	25%
Total	259	100%

Please select one of the following that best describes your current work situation.

Answer	Response	%
Paid employment 30 hours or more per week	171	66%
Paid employment under 30 hours per week	25	10%
Unemployed	3	1%
Student	48	18%
Retired	1	0%
Home duties	1	0%
Unpaid voluntary work	1	0%
Other	11	4%
Total	261	100%

In what industry are you mainly employed? (If more than one, pick your main source of income; if not employed, pick the last industry you were employed in).

Answer	Response	%
Agriculture, forestry, fishing and hunting, or mining	20	8%
Manufacturing	11	4%
Construction	24	9%
Arts, entertainment, recreation, accommodation, or food services	48	18%
Educational, or social services	49	19%
Finance, insurance, real estate, rental and leasing	2	1%
Medical profession	21	8%
Other professional, scientific, management, or administrative services	62	24%
Public administration	3	1%
Retail or wholesale trade	11	4%
Transportation	5	2%
Never been in paid employment	5	2%
Total	261	100%

What is your personal annual income before tax?

Loss	4	2%
$0 to $10,000	28	11%
$10,001 to $20,000	16	6%
$20,001 to $30,000	16	6%
$30,001 to $40,000	29	12%
$40,001 to $50,000	26	10%
$50,001 to $60,000	29	12%
$60,001 to $70,000	38	15%
$70,001 to $100,000	41	16%
$100,001 or more	24	10%
Total	251	100%

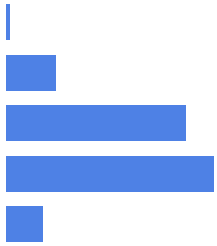
Are you involved in any voluntary work or community initiatives?

Answer	Response	%
No	79	31%
Advocacy	21	8%
Emergency services or Search and Rescue	42	16%
Environmental action	55	21%
Social services, e.g. mentoring	24	9%
Club admin/coaching	105	41%
Other	26	10%

Please indicate your current family structure.

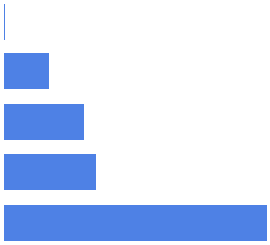
Answer	Response	%
Single without children	109	42%
Single with children	6	2%
Married or with partner without children	81	31%
Married or with partner with children	64	25%
Total	260	100%

The grade of whitewater that you currently prefer to kayak is:



Answer	Response	%
Grade 1-2	2	1%
Grade 2-3	27	10%
Grade 3-4	98	38%
Grade 4-5	113	43%
Grade 5+	20	8%
Total	260	100%

How long have you been kayaking whitewater?



Answer	Response	%
under 2 years	24	9%
2 to 5 years	43	17%
5 to 10 years	50	19%
over 10 years	143	55%
Total	260	100%

Notes

Appendix 3 River Trip Reports

This appendix contains river trip reports on the following rivers (sections):

Arahura (Newton Creek)
Arahura (Milltown Gorge)
Arnold
Buller (Earthquake)
Cascade (Gorge)
Crooked (Upper and Lower)
Grey (Upper Grey)
Hokitika (Serpentine and Kakariki)
Kakapotahi (Upper and Lower)
Karamea (Venus Hut down)
Kokatahi (Crawford Junction)
Lands borough (Toe Toe Flat)
Makawhio
Martyr (Monkey Puzzle Gorge)
Mikonui
Moeraki
Mokihinui (Johnson Hut, North Branch, The Forks)
Moonlight
Perth (Scone Hut, Five Finger Gully)
Styx (Tyndall Creek)
Taipo (Julia Hut, Seven Mile)
Toaroha
Totara
Turnbull
Waiatoto
Waimangaroa
Waipara
Waitaha
Wanganui (Upper and Adams confluence)
Whitcombe (Cropp)

These reports are also included in electronic form (pdf) in the attached DVD.

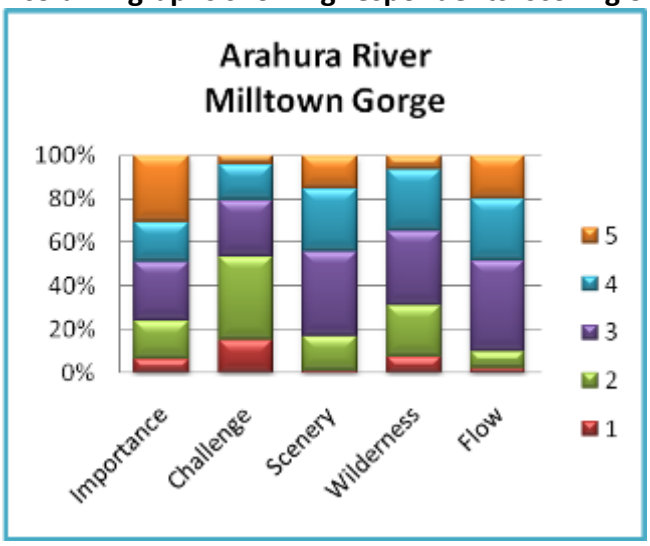
Notes

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Arahura (Milltown Gorge)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	On this trip, put in was at the 'Arahura playhole' through a farmer's paddock at approx: 42° 48.730'S 171° 12.942'E 543585	At the 'Red Shed' approx: 42° 44.004'S 171° 6.965'E 457670
Access description	2wd vehicular access to take-out up Humphrey's Gulley Road (off Arahura Valley Road off SH6), then drive round to Milltown Road off Kaniere Road. Access at put in and take-out involves crossing private land with good will.	
Land status (banks)		
Date kayaked (for this report)	6th December 2010	
Group members (on this trip)	Greymouth High School student trip, with 3 student kayakers and 2 staff including me on the river	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Mixed grade 2-3 whitewater, with shingle bars and chutes leading into bedrock gorge with rocky narrows and wide boulder rapids, leading out into shingle bars and flatter water to the take-out. Lots of good eddy-lines and teaching opportunities. Few hazards but real hazards do exist: tree strainers, small hydraulics. Flow on this day was low, about 20-30 cumecs. It would not often get lower than this and would be suitable for intermediate kayakers at a higher flow, possibly to 60 cumecs. It is therefore reliable in all but very low or very high flows.	
Description of water landscape (inc. water quality and clarity, river bed features)	Water was blue-green and clear with high visibility. although there is some cattle grazing upstream, the water seemed clean and drinkable. River bed features of bedrock, shingle and boulders were largely visible and attractive if not remarkable.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	At the put in and take-out, farming and forestry is visible. In the gorge, however, the valley is lined with native forest and appears largely pristine. There are shallow bedrock gorges and cliffs, overhung with vegetation, making a very scenic trip. Near the put in, views up valley are to the Alps.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Drive-up access and egress, farmland and signs of forestry reduce the wilderness feel, but there is a real wilderness feel in the gorge and egress is not at all easy. The long drive and gravel roads for access add to this feeling and urban or international visitors would most likely experience substantial wilderness feelings.	

Notable flora and fauna (eg blue duck)	None on this trip
Description of overall character of river	This is 16km of classic advanced beginner/intermediate trip of the West Coast, with varied whitewater, suitable for a step up or first real river journey in scenic surrounds.
Distinctive features of river trip (key words)	Grade 2-3; pool drop; reliable flow; scenic; water quality; advanced beginner; improver,
Info for land managers	Current access arrangements work well but are delicate and assistance with more robust arrangements may at some point be required. This would be well worthwhile.
Info for rescue managers	It is quite possible that a search may be required in this section, due to human activity (hunting, tramping, kayaking) around and upstream. A kayak team would be best suited to this section. An initial search by helo would be useful due to open river bed and good visibility. Clear water makes visibility great. The channel width is mostly suited to easy searching from kayak. The drawback is the length of section so large amount of water to search. Expect a high POD but allow 4 hours for a quick search and up to 10 hours for thorough searching.
Any other notes	At the put in, the Aranhura 'playhole' is used at higher flows for 'playboating' which is gymnastic type surfing and playing in kayaks on a wave. There are shorter sections on the Arahura downstream of this section: from the Red Shed down to the information sign/shelter is mostly grade 2 but suited to beginners' introductions to whitewater and downstream of the sign/shelter to the SH6 bridge is largely g1.  The Arahura 'playhole' Students upstream from the gorge 

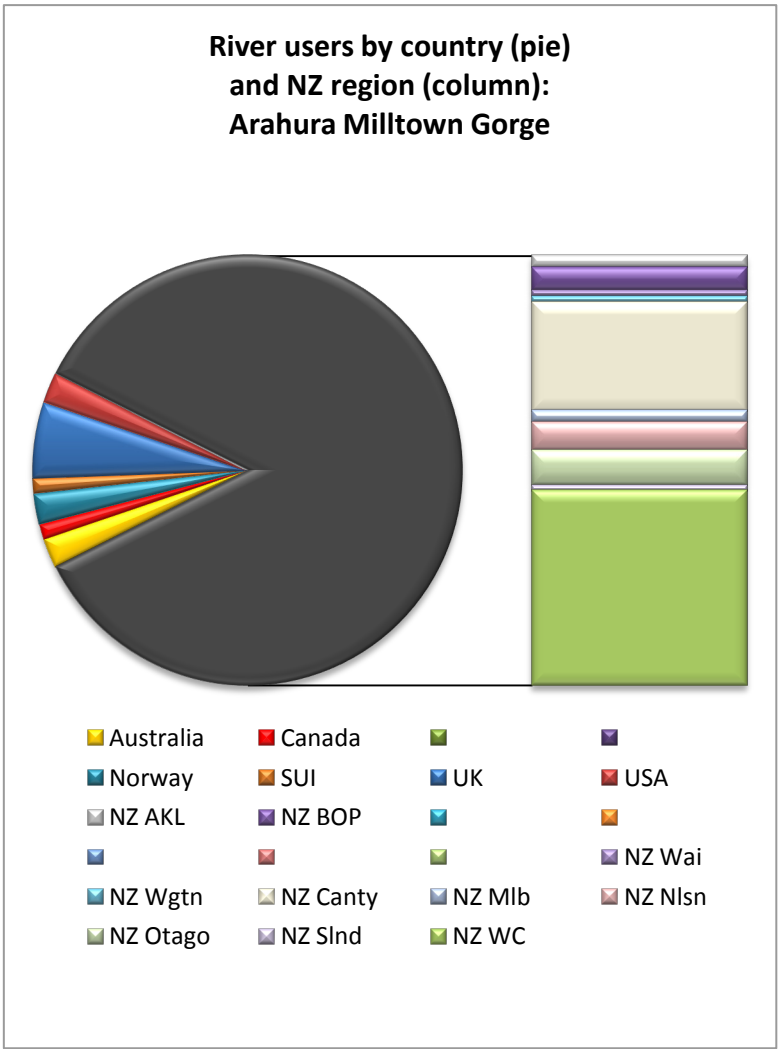
Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	431
Number of respondents for this section	94
Mean number trips per person	4.6

Notes

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Arahura River (Newton Creek)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	A clearing at bottom of 'Third Gorge Creek' 200m upstream from Newton Creek swingbridge, approx: 42° 50.991'S 171° 22.202'E 668545 Styx Saddle put in is at approx 642494 and the river has been kayaked from around Harman Hut. A shorter, walk in trip goes to the Second Gorge at the base of Prices Ck to a waterfall called Cess Pit by kayakers at approx: 575537 A shorter and easier (g3) walk in trip goes to the downstream end of Second Gorge	Usually, vehicles are left at approx: 42° 50.448'S 171° 14.316'E 561553 Sometimes vehicles are left by the Milltown Road bridge or driven down onto the river flats closer to the Cess Pool swingbridge
Access description	The Newton Creek section is usually heli access with Kokatahi Helicopters (Bruce Dando) as it was for this trip. The Styx Saddle and Harman sections are all heli access. I have walked in to the Newton Creek section and it takes about 3 ½ - 4 hours on DoC track. The lower sections (Second Gorge) are walk in access on DoC track.	
Land status (banks)		
Date kayaked (for this report)	16 Jan 2010	14 Jan 2011
Group members (on this trip)	Pete Kyriakoudis (UK/NZ) Greg Nicks (UK/NZ) Alex Nicks (UK/US) Kevin England (NZ) Andy England (NZ)	Dave Ritchie (NZ) Dave Mills (NZ) Mick Hopkinson (NZ) Matt Shearer (NZ) Polly Miller (NZ) Eddie Murphy (NZ) Matt McLeod (NZ) Kevin England (NZ) Andy England (NZ)
Description of whitewater kayaking technicality (inc. grade and style of	Classic grade 4 and 5 technical, steep, medium volume river running. Although pool-drop, rapids can be quite long and are close together in the gorges. There are many short drops which	

kayaking, volume on day, flow requirements and estimate of reliability)	require 'boofing' (raising the bow of the kayak to land in the eddy below) and frequent edge changes (raising the left to right edge of the kayak or vice versa) whilst carving high crosses add a dynamic sense to the rapids which may not be necessary but optimises the paddler's use of energy from the hydraulic features available. It is very rare to get so many of these features so close together. From Newton Creek, the Third Gorge (map name) is as described above. There is then a gentler middle section of grade 2 and 3 boulder garden kayaking. This is followed by the Second Gorge (map name) or Cess Pit gorge (kayakers' name). This is a long grade 4 rapid requiring many linked moves and the ability to read whitewater and make decisions on the run. The Second Gorge opens out into grade 3 boulder garden chute and eddy kayaking to the take-out. This section contains lots of eddy lines suitable for S-turns and small boof drops. Flow on this day was the lower end of medium, very approx. 20 cumecs at the put-in and 30 cumecs at the Second Gorge. The Arahura can be kayaked much higher (to perhaps 60 cumecs at the Second Gorge) which makes it harder; and can be kayaked lower (to perhaps 20 cumecs at the Second Gorge
Description of water landscape (inc. water quality and clarity, river bed features)	The Arahura has a unique colour, somewhere between blue and green and can be very brightly coloured particularly in lower flows. On this trip, it was very slightly silty but still had very good visibility; translucence close to transparency. Water is clean and drinkable. The river bed is mostly visible and shows boulders of varying colours. Notably, there are lots of green serpentine rocks, some white quartz and some red-brown rocks. There are a few bedrock ramp drops where grey schist bedrock can be seen.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	In the gorges, views are limited to the banksides which are typically grey schist gorge walls with bright green moss overhung by native bush. The gorges are not notably narrow or high. The river around Cess Pit (the upper part of the Second Gorge) has carved an incredible series of shapes into the bedrock, causing the river to wind around 2 distinct stack-like rock structures and eddy under a large smooth mossy overhanging bedrock wall with a small waterfall entering from the side. The Second Gorge itself has vertical walls with a remarkable fluted shape rising straight from the river. It has mixed strata lines and white-grey-black rock stripes, accentuated by green moss lines, giving a striking visual effect vertical lines dissected by curves, beneath green vegetation and above bright blue and white water. Between the Third (upstream) Gorge and Second Gorge, the valley is wider with views back to alpine mountains. There are grassy flats with swathes of Toe Toe on river beaches.

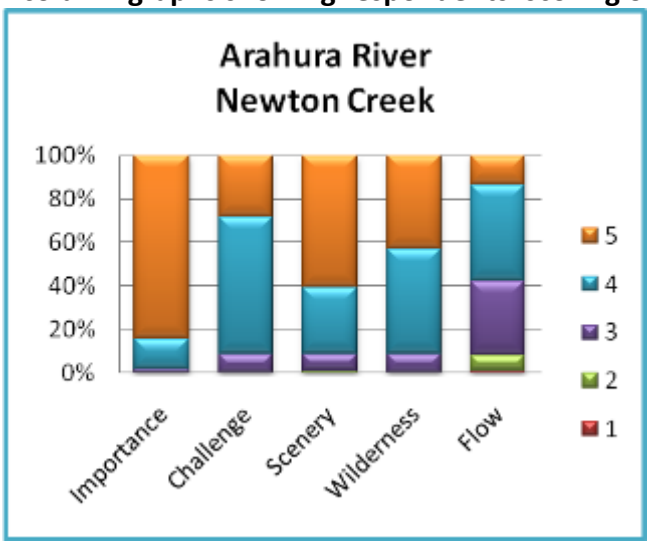
	Downstream of the Second Gorge the valley opens out but remains steep sided and V-shaped with high forested walls of unconsolidated sediments. Vegetation is all native.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	A short flight from rough-grazed farmland, following a walking track past 2 bridges and huts, the Newton Creek section of the Arahura does not have a major wilderness feel. In the valley sections, trail markers can be seen and the trail itself occasionally. In the gorges, however, there are no signs of human influence and the environment is pristine and wild. At 'Billiards' (near the end of the Third Gorge) there is some steel rope on the river's edge. Overall, the Arahura Newton Creek trip has a moderate wilderness feel. The Styx Saddle section has a much higher degree of wilderness feel.
Notable flora and fauna (eg blue duck)	1 Whio seen on this trip, shortly downstream from Third Gorge.
Description of overall character of river	The Arahura is 14km of the most dynamically and aesthetically satisfying grade 4+ kayaking available in the world! It is hard for me to stay objective here as this is my favourite river in the world, with the Second Gorge being my favourite rapid, gorge and wild place full stop. Changes between 2009 and 2011 have reduced the quality of some rapids, but the Arahura still has an incredible 'X-factor' mysterious quality about it that is greater than the sum of its parts. As a trip, it starts with lots of whitewater until you've almost had enough, then has an easy section that is long enough to rest without getting too bored, then offers the excitement of Second Gorge/Cess Pit and finishes with a fun mid grade paddle out almost all the way to your vehicle. The Arahura is no longer regarded, as it was when first run in the 1980s, as a cutting-edge whitewater run. Instead, it is a river that experienced kayakers go to to enjoy a half day trip with rapid after rapid of smooth-flowing fun challenges, sparkling bright colours and a strong feeling of a pristine natural environment. The latter also appeals to first time visitors although most people still find the Arahura steep and technically challenging on their first descent and take a whole day. The changing nature of the sections gives options for different users. Typically, more experienced kayakers who enjoy their environment favour the Styx Saddle trip, with water; experienced whitewater-focussed kayakers enjoy the Newton Creek and Second Gorge sections, and intermediate kayakers enjoy the walk to the downstream end of Second Gorge or, if they can afford it, the usually flown-in section downstream of Third Gorge (portaging Second Gorge).

Distinctive features of river trip (key words)	Technical grade 4+; boofs; steep; fun; read and run; scenery; gorges
Info for land managers	Some kayakers choose to walk to the Newton Creek put-in using the DoC track. This track is critical for emergency egress but increasingly for access as helicopters increase in price: there are no other 'full' West Coast trips that can be so practically accessed on foot. On the 2011 trip, the track had been severely damaged by floods from tributaries. Helicopter access is very important here. Vehicular access to the trail along the valley makes the walk-in option possible. The huts are generally not used by kayakers.
Info for rescue managers	The post-2009 changes in the Arahura's river bed have added sieves, increasing the likelihood of kayakers getting in trouble. However, most kayak groups self rescue. There are few anglers in the gorges and banks in the main valley are good. Trampers have a good trail and swingbridges. There are few seriously overhung sections so a helo search would most likely be effective: an experienced whitewater spotter should be used if possible as snag points are not obvious and there is a lot of whitewater. In low flows, the Arahura has remarkable clarity making for effective searching. The only hindrance is the amount of whitewater which obscures views and prevents searching. Expect a moderate POD. In high flows, water is discoloured and can be dangerous. I would recommend delaying a search is possible. The flow of the Arahura at SH6 bridge seems to be delayed about 6 hours from the flow above Milltown. From Styx Saddle to Newton Creek, allow 2-4 hours searching. From Newton Creek to Milltown Road end, allow 5-8 hours searching.

Any other notes

Statistics from 2010 West Coast Whitewater Kayaking Survey

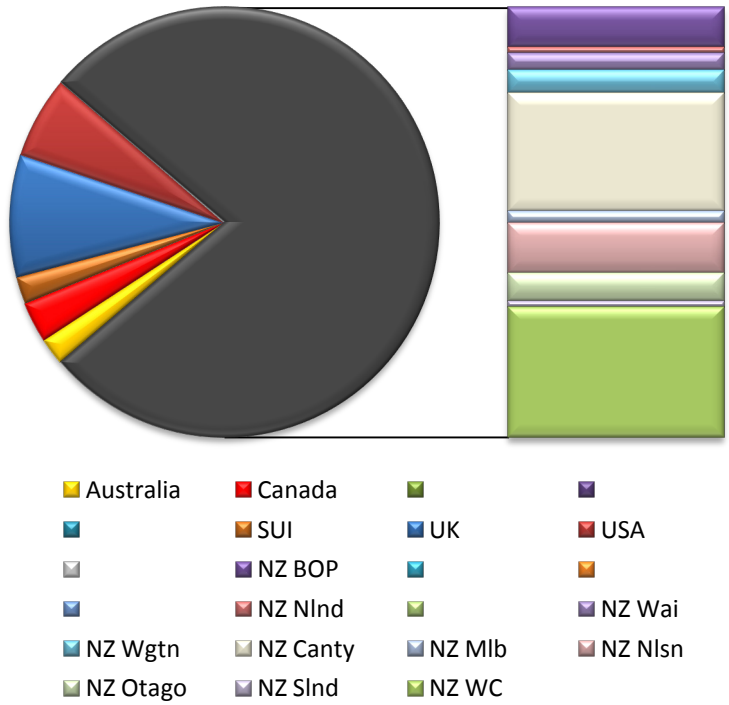
% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number

River users by country (pie) and NZ region (column): Arahura Newton Creek



Numbers	
Total number trips recorded	722
Number of respondents for this section	101
Mean number trips per person	7.1

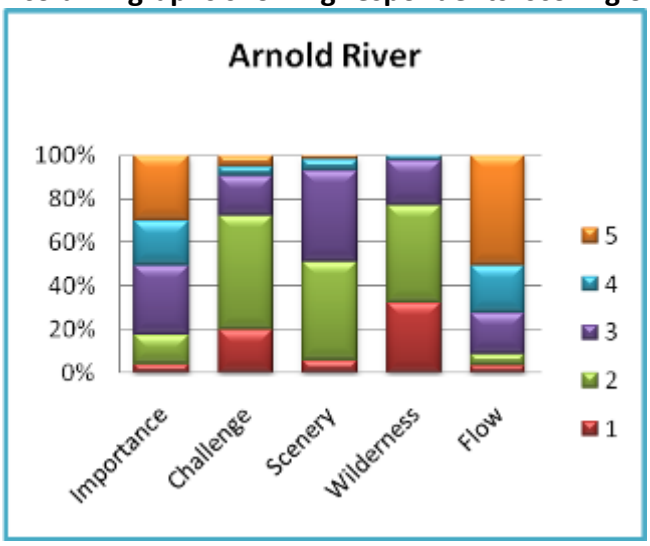
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Arnold	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	There are 2 main put-ins. (A) from the car park by the power station (Arnold River walk) on river left: 42° 31.426'S 171° 24.495'E 693908 (B) at the end of a track left of the hydro outflow, river left: 42° 31.251'S 171° 24.331'E 691912 Occasionally put in is from the foot of the dam (usually commercial rafting trips as recreational users do not have access through locked gate)	There are 2 main take-outs. (A) river left at McKenzie's farm at the end of Maori Gully Creek: 42° 29.800S 171° 23.339'E 677937 (B) river right upstream of bridge by CMP Kokiri meatworks: 42° 28.903'S 171° 22.559'E 665954 Very rarely do people kayak further downstream.
Access description	2wd vehicular access from Arnold Valley Road, signposted to Arnold Power Station at Kaimata. No issues.	
Land status (banks)		
Date kayaked (for this report)	25th November 2010	
Group members (on this trip)	Mixed Westland Canoe Club and Greymouth High School club trip, with 15 kayakers on the river.	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic bouldery grade 2 whitewater, pool drop in nature. Rapids tend to be wide (20-40m) with multiple lines and hydraulic features mainly formed by rounded boulders. Rapids are long enough that the entire rapid cannot be seen from upstream seated in a kayak. On this trip, flow was estimated at around 30 cumecs, which was very low. It is better with more flow and ideal between 40 and 60 cumecs. The Arnold's flow is very reliable due to the cushioning effect of Lake Brunner. More detailed information is contained in submissions to the WCRC and TrustPower relating to a planned hydroelectric scheme (2008).	
Description of water landscape (inc. water quality and clarity, river bed features)	Water was brown and translucent, peaty discoloured rather than turbid. Water was notably warm. This is typical of the Arnold at most flows. Testing has shown the Arnold's water to be high in agricultural run-off although it is rarely evident on the river and I have drunk from the Arnold without ill effects.	
Description of valley landscape from river (inc.	Largely lined with willow, the Arnold has mostly agricultural land use on both sides. There are sections of native bush on alternate	

gorges and views from river, types of vegetation)	banks. The landscape is attractive to most, albeit in a rural rather than wild way.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Drive-up access and egress, farm land, power station and race, old bridges, rope swings and an adjacent train track diminish wilderness values to zero, although urban users would still appreciate the rural feel and patches of native bush. It is important to note that, for a beginner/improver trip, which is the main role of the Arnold in kayaking, wilderness is not really desirable and easy access/egress is.
Notable flora and fauna (eg blue duck)	None on this trip
Description of overall character of river	This is the classic beginner trip of the West Coast, well known by local and neighbouring regions. The Arnold's combination of pool drop grade 2 rapids with many hydraulic features, reliable flows, warmer water and easy access , make this a well used river with an essential place in the West Coast's river hierarchy.
Distinctive features of river trip (key words)	Grade 2; pool drop; reliable flow; warm; beginner; improver
Info for land managers	Current access arrangements are great and don't need changing. Maintenance (removal/trimming) of willows would be useful. Flow regime is important (see above). At the time of writing I believe consent has been granted for a hydro scheme which would reduce flows to about 16 cumecs, totally changing all of the above: an artificial whitewater course, the Arnold River Park, is proposed to replace the current role of the Arnold.
Info for rescue managers	It is unlikely that a WWSAR team would need to search the Arnold as it is relatively easy to navigate and has easy egress and cellphone reception. If a search was required for a body, the dark colour of the water and deep pools would be a disadvantage. However, there is little in the main flow to snag a body. The banks are frequently lined with willows creating strainers which would hold a body and these would likely be the focus of a search. Expect a kayak team to take 1-2 hours for a quick search and 2-4 hours for a detailed search. Downstream of the meatworks is a long windy section with lots of strainers both on the banks and in the river. It would be worth searching this section. Allow 2 hours to the road bridge.

Any other notes	

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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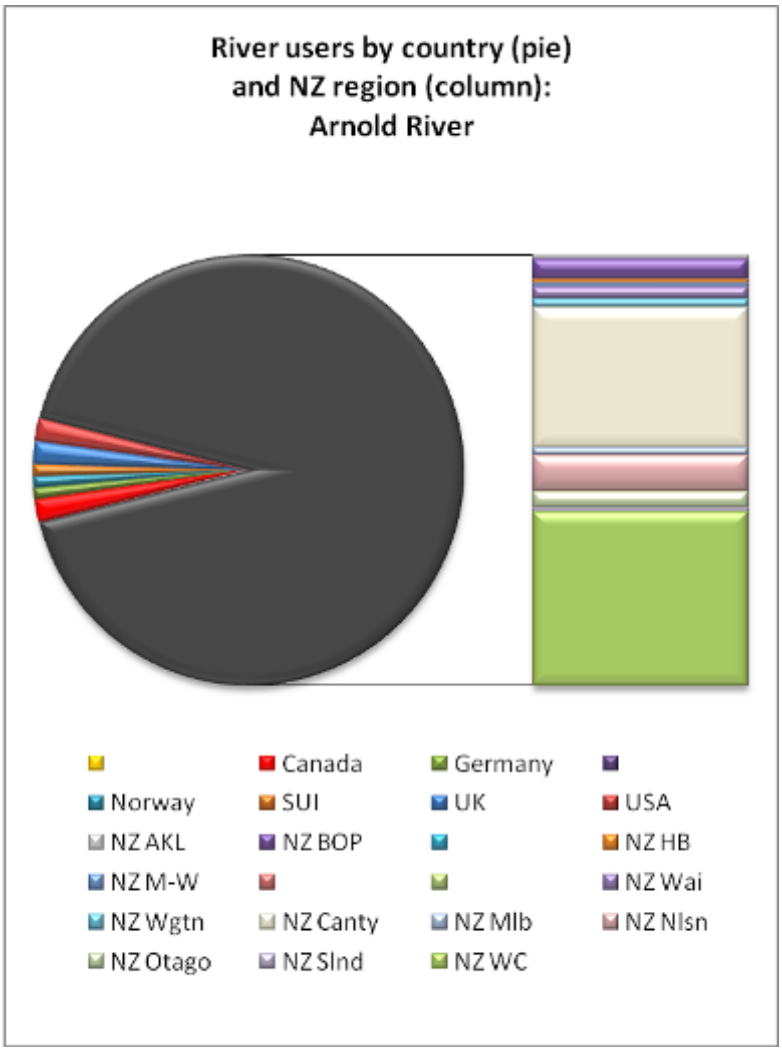
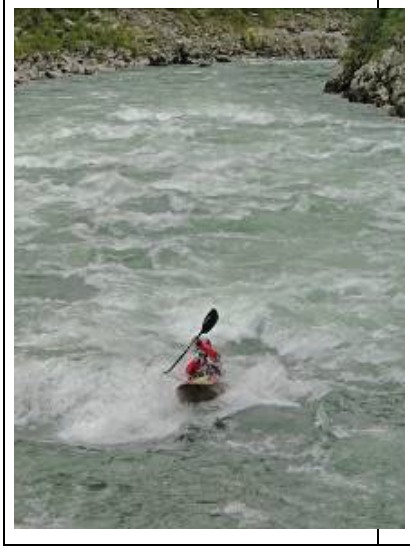


Numbers	
Total number trips recorded	3595
Number of respondents for this section	323
Mean number trips per person	30.0

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Buller ('Earthquake')	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	41° 48.675'S 172° 6.084'E 254707 Track down from SH6 to river where there is an obvious car park. Put in at river beach, river right.	41° 46.977'S 172° 1.905'E 196 738 River beach river right, about 200m downstream from Iron Bridge
Access description	2wd vehicular access from SH6 to within 50m of river. No issues.	
Land status (banks)		
Date kayaked (for this report)	15 November 2010	
Group members (on this trip)	Graham Charles (NZ) Mick Hopkinson (NZ) Peter Kettering (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic grade 3 bigger volume trip. Pool drop style ie flat sections punctuated by rapids, mostly g2 with some g3 and one g3+. Low technical requirements. Lines wide and multiple in each rapid. Hazards mostly hydraulic ('holes', whirlpools, boils) but also rocks and occasionally trees/strainers. Volume on day very approximately 200 cumecs; flow varies qualities of trip for kayakers but range is huge, offering different qualities at differing flows: therefore almost 100% reliable.	
Description of water landscape (inc. water quality and clarity, river bed features)	Green translucent water on this trip: does vary with flow but usually green except highest flows (brown). Water quite clean – no smell - but has passed settlements and farming areas. Wide water landscape in most of the river. River bed features varied but not prominent due to volume of river therefore depth.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Mostly steep sided, V-shaped gorge like with native bushed sides and 2-6m of river-scoured rock immediately by river. Vegetation mostly beech forest with some gorse present close to river banks. Road and power line visible in a few places, high above river.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Despite drive-in and presence of cultural features and gorse/broom in places, there is a reasonable feeling of wilderness due to the dominance of natural features in one's field of view.	
Notable flora and fauna (eg blue duck)	Chilean rhubarb seen and reported to DoC. Didymo NOT seen and reported to have been washed away.	
Description of overall character of river	Classic grade 3 big volume kayaking with very reliable flows in a pretty gorge with great access.	

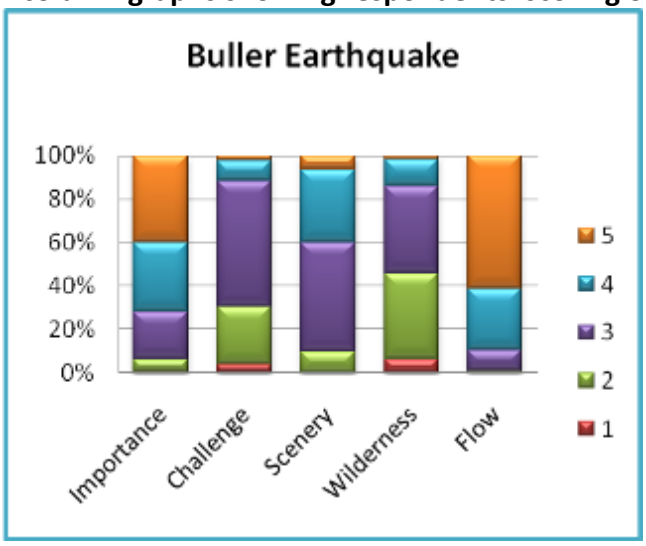
	An intermediate kayaker's step up or advanced kayaker's social run, this section has lots of waves to surf, eddy lines to play and a few lines to make.
Distinctive features of river trip (key words)	Big volume; intermediate; grade 3; waves
Info for land managers	The status quo is ideal for kayakers at this time. Access and egress are particularly appreciated.
Info for rescue managers	This section has been searched after vehicle accidents and there has been one kayaking fatality (person pinned to a log). Due to the popularity of the run and adjacency to the road, it is likely that this section will be searched again. Translucent water, a wide river channel and deep water make it impossible to give a high POD. However, kayakers have proven that they are capable of finding sign washed into eddies etc. and have helped to extract a body from a car in a place that would be dangerous to land searchers to reach. A kayak team is ideal as far as the end of "Gunslinger" (approx. 207707). A raft team may be useful if time permits. Teams would need to float to the Iron Bridge to take out anyway. Downstream from there, a jetboat team would cover ground more quickly. A team of 4 would be minimum for good coverage due to the river width. Allow 4 hours for a basic search and up to 8 hours if a detailed search is required.



"Gunslinger" rapid

Statistics from 2010 West Coast Whitewater Kayaking Survey

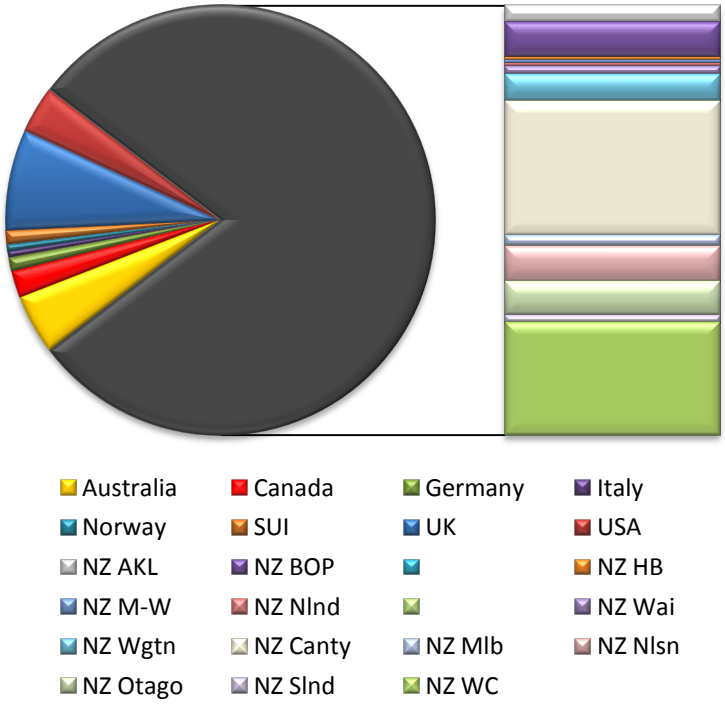
% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number

River users by country (pie) and NZ region (column): Buller Earthquake



Numbers	
Total number trips recorded	3972
Number of respondents for this section	215
Mean number trips per person	18.5

Notes

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Cascade (Gorge, from Durwards Falls)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Flats upstream of Durwards Falls, approx.: 317 873 44° 16.438'S 168° 23.105'E	Fishermen's track river right at 'The Bend' approx: 428 048 44° 7.288'S 168° 32.66'E
Access description	Helo, at time of trip with Alpine Adventures (James Scott) but likely in future to be Haast based helo company. Helo pick-up from Martyr River left bank by locked gate on Cascade road at approx 424 072 (44° 6.126'S 168° 31.87'E). This is as far south as it is possible to drive on the West Coast, about 1.5-2 hours south of Haast. Helo drop off is in Wilderness Area therefore a special permit for research was obtained from doC for this trip. Usually, helo landings in this area are banned by law and enforced by DoC. The Wilderness Area boundary is downstream of Cascade Gorge.	
Land status (banks)		
Date kayaked (for this report)	16 February 2010	
Group members (on this trip)	Gareth Fryer (NZ) Mary Harrop (USA) Olaf Koehler (USA) Jason Shepherd aka JJ (USA) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	There is a short section of flat water kayaking from the river flats to the top of Durwards Falls. These falls are too dangerous to kayak, currently, so are portaged. Our group chose to portage to the true right and took an hour through bush. However, there are reports of a group portaging true left in less time and accessing about 300m more of the whitewater in the gorge below the Falls. From the put in below Durwards Falls, the Cascade Gorge is mostly technical grade 4 and 5 with serious consequences for mistakes coming from fairly common sieves. Rapids were typically short and channelised with several moves to make before the next eddy. For our trip, the flow was low (20m#/s?) which would have added to the sieves, but we all agreed that it was likely the grade would be at least g4 at any flow and unsuitable at a very high flow. All rapids could be inspected from the bank and portaged at river level if required. The gorge section is about 2.5km long with no flat sections and a fairly steady gradient providing a classic puzzle of sequential g4 and 5 rapids.	

	Downstream of the Cascade Gorge, the Cascade River eases in difficulty considerably and is mostly g1-2 with one or two g3 rapids. It picks up more volume from tributaries. The rapids vary markedly, from shingle rapids in braids to channelized gorges and boulder rapids. This style of kayaking – easy but varied – continues for about 22km to the take-out at 'The Bend'.
Description of water landscape (inc. water quality and clarity, river bed features)	The Cascade has one of the most interesting and varied water landscapes I've ever seen: the water clarity is exceptional, with a sapphire-emerald blue-green tint; through the water can be seen the amazing geological diversity of the river bed, both bedrock and boulders of constantly changing colours. Durwards Falls are stunning from upstream and I would have loved to have seen them from their base, but we were unsure of our timing so did not take the risk of travelling upstream to view them. In the Cascade Gorge, the whitewater passes through large boulders and bedrock with some unusual tilted slabs and vertical gorge sides in places. All the time the water is totally clear and, with bright sun, makes for a dazzling water landscape. Downstream of the Gorge, the water landscape varies notably and frequently, from braids to small gorges and meanders. The water moves quickly with a constant gentle gradient. It was amazing to watch the river bed through the clear water, as I've never seen such diverse colours of river bed boulders.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Upstream of Durwards Falls is a stunning, wild and lush river flats area surrounded by a beautiful valley with pristine bush and high mountains including the Red Hills. It is an easy float for kayakers so the scenery can be appreciated. In the Cascade Gorge, bush overhangs the river in places and sides are always steep, yet rarely vertical and the gorge is never a tight, narrow bedrock gorge. The river sides are typically made up of large boulders of strikingly varied geology and look to be quite mobile (some boulders appeared to be perched quite precariously). In the Gorge, wider views are impossible and the focus is very much on the immediate river environs, which is useful as the whitewater is technically very challenging. Downstream of the Gorge, the valley widens to an impressive pristine expanse of tussock and Toe Toe flats with bush and scree slopes up to high mountain surrounds.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Having driven 1.5-2 hours south from Haast on gravel roads, then taken a long helo flight, there is a striking sense of wilderness. There are no huts, no trails and no other signs of human influence in the upper reaches. We saw no permanent signs of human influence in the lower reaches either but we did see 4 people (2 individually and one couple, all fishing).
Notable flora and fauna	Upstream of Durwards Falls we saw a lot of deer sign on the flats.

(eg blue duck)	Downstream of the Gorge we saw a lot of trout.
Description of overall character of river	This was my surprise jewel find. The Cascade River is one of the most stunningly beautiful wilderness trips I've ever done. Landing above the Gorge in such a stunning valley, and portaging Durwards Falls gives a striking feeling of being in a special place. The Cascade Gorge, with its unusual geology and great whitewater puzzle challenge, without intimidating bluffs or unscoutable rapids, makes for classic wilderness grade 4+. Even downstream of the Gorge, the Cascade flows purposefully with remarkable clarity through constantly changing riverbed and valley scenery. The Cascade would make a classic easy 2 day trip in summer, if Wilderness Zoning permitted which it does not. I would suggest landing camping gear at the downstream end of the Cascade Gorge, flying in to the flats upstream of Durwards Falls and enjoying the paddle to the campground, then a slow float out the following day with fishing gear.
Distinctive features of river trip (key words)	Pristine wilderness; geology; Wilderness Area; water clarity
Info for land managers	Although I respect the aims of Wilderness Areas, it seems a great shame that the line drawn for the Cascade River prevents access by helicopter, the only way for kayakers to access a river, to the Cascade Gorge. In so doing, one of the West Coast's potentially classic/iconic wilderness kayaking experiences is made impossible or illegal. It is very unlikely that, even if the trip was legal, the Cascade would see a high number of visitors as the cost of access will always be high. It is also unlikely that these users would be unappreciative, exploitative or otherwise disrespectful of the environment. I have avoided making comments to decision makers as far as possible in this project, but the Cascade River stands out to me as one of two classic river trips prevented by planning that did not consider river users at the time and should therefore be revisited.
Info for rescue managers	Anyone lost on the Cascade valley is lost likely to head towards the river as it would be otherwise so hard to navigate. A kayak team could search from around Malcolm Creek, about 6km upstream of Durwards Falls. In this upper upper reach, there are many rock sieves that could entrap a person in the water. They would be difficult and time-consuming to search effectively, and would definitely require a team with extensive whitewater and wilderness experience. Allow 4-6 hours. The river flats upstream of Durwards Falls are easily walkable and easily boat scoutable: a kayak team could search the river here quickly and effectively as there are a few obvious logs for a body to snag on. Allow 2 hours. Allow 1 hour for the portage of Duwards Falls – it is very unlikely that any helo could assist here. The Cascade Gorge could only thoroughly be searched by a good

	kayak tem, although I think that a helo could fly low in there as it soes not have narrow sides. There are enough rock sieves that any search could only have a low POD. Treat this as grade 5 (ie most rapids should be portaged). Allow 3-5 hours for the 2.5km to the Gorge mouth. Downstream of the Gorge would be classic search territory for a whitewater team: there are fast flowing sections where little would snag but several trees and one major log jam that would most likely entrap anything (my GPS wasn't working on the day but we think it was around MacKay or Woodhen Creek and would be visible from the air). Jet boats could be used downstream of this log jam but would not be able to get around the jam. With such outstanding water clarity, aerial searching could be very effective but I would recommend an experienced whitewater spotter. Expect a high POD. For 25km to 'The Bend', allow 7-10 hours (5h minimum).

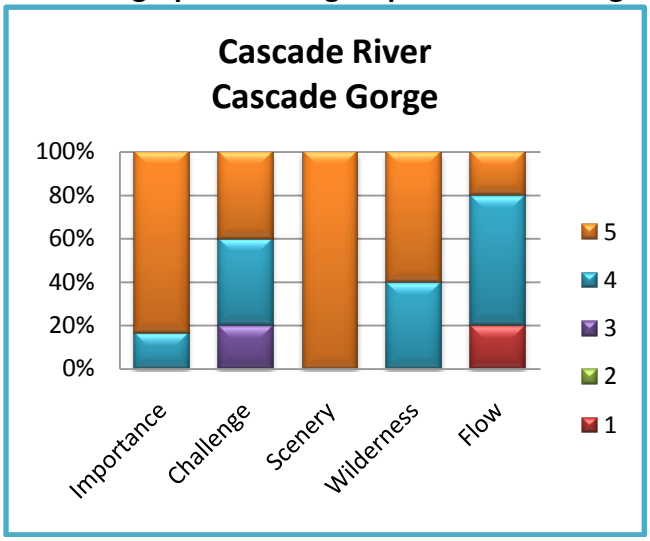
Any other notes Flats upstream of Durwards Falls	Due to confusion over landing, we put in much higher than Durwards Falls at around 1.5km upstream of Malcolm Creek. This section was mostly portaged to the river flats as it was steep rock sieve rapids. Photos:

Rapids in Gorge

Take-out at 'The Bend'

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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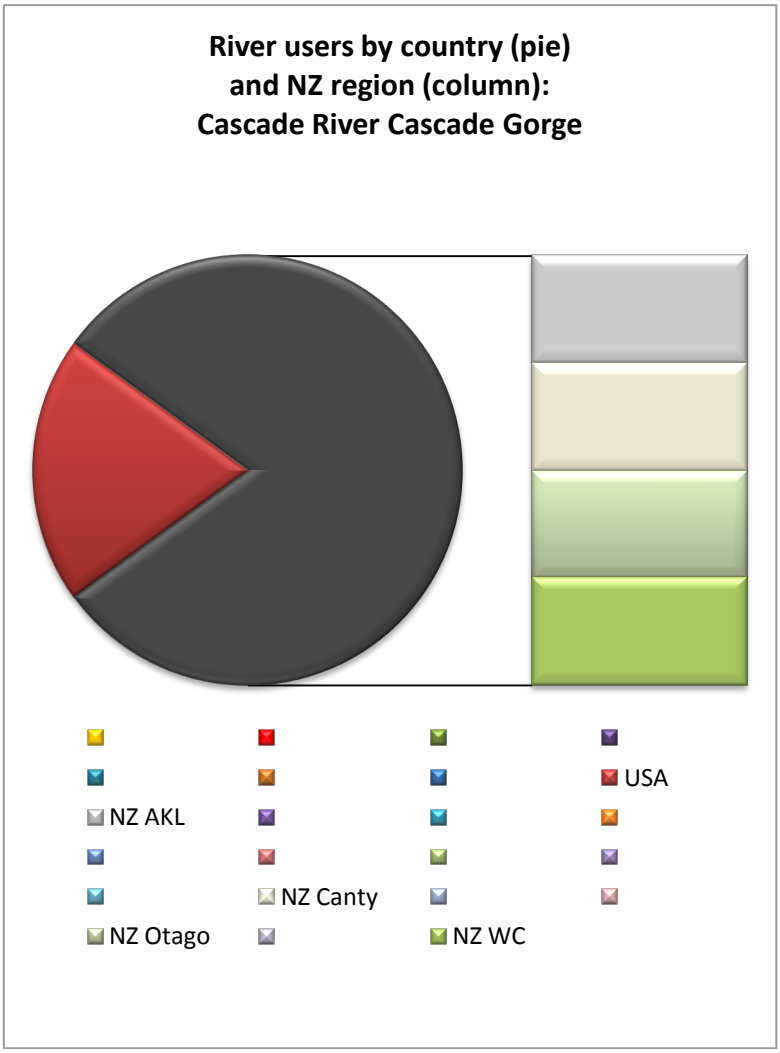


Numbers	
Total number trips recorded	6
Number of respondents for this section	5
Mean number trips per person	1.2

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Crooked River (walk-in upper gorges and lower to road bridge)	
Locations (Topo 50 GR plus latitude and longitude of put in and take out)	Put in	Take out
	Upper: 873 752 42° 40.0555'S 171° 37.432'E Lower: 874 770 42° 39.046'S 171° 37.564'E	Upper: 874 770 42° 39.046'S 171° 37.564'E Lower: 848 793 42° 37.798'S 171° 35.762'E
Access description	Vehicle access through farmland belonging to Burgess brothers of Rotomanu who controversially (road is technically Grey District Council but they don't maintain it) lock the gate after the Fish and Game access point (approx. 867 773). The brothers take a caretaker attitude and generally don't prevent access but want to know who is on their land and like to know that people come out safely. For Upper Crooked, kayakers walk from road end by old bridge carrying their kayaks following the track upstream through bush to the upstream end of the gorge, signalled by a creek which kayakers follow downstream to where it joins the Crooked river. Although it is only about 2km, it takes 1h for fit kayakers who know the route and lots longer for less fit people or those who get lost en route as happens frequently (although in 2010 the track had been improved so getting lost is less likely). For the Lower Crooked, kayakers drive to the same broken bridge as they start walking from for the Upper, then put in and kayak downstream. It is possible to put in at the Fish and Game access point and therefore avoid the locked gate with a loss of only 1 rapid. Take out is under the road bridge on the Bell Hill Road.	
Land status (banks)		
Date kayaked (for this report)	19th February 2010	
Group members (on this trip)	Kevin England (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Upper: high quality steep and technical g4 and 5 whitewater with some serious consequences with sieves and strainers to watch for. Rapids at most flows are separated comfortably with short pools – at very high flows these pools seem very short. On this trip the flow was medium low (15-20m3/s?) which made some rapids too rocky to run safely. The Crooked requires some additional flow from rain and loses flow quickly (6 hours to 2 days depending on rain history). Medium to high flows are more fun and exciting without being more dangerous as sieves mostly get filled in and kayaking lines become cleaner ie less rock or wood to	

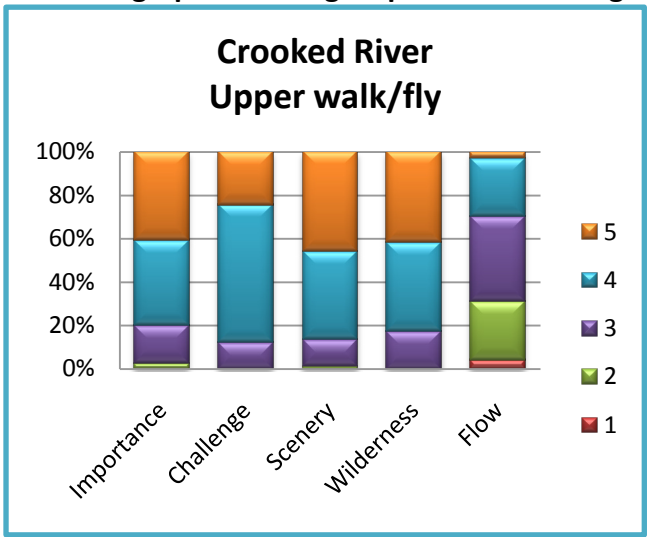
	knock kayakers off line; very high flows when the river is brown are scary with little time between rapids in the gorge, little opportunity to scout or portage and large hydraulics meaning lots of places where kayaks are sucked underwater. Lower: high quality intermediate g3 kayaking with varied rapid styles covering shingle, boulder and bedrock. Pool drop with longer pools. Better with extra flow from rain although too much rain makes this trip too challenging for less experienced kayakers due to larger hydraulics. At a low flow, this section becomes quite rocky although it is quite possible to navigate, albeit with a lower quality experience.
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the Crooked was green and translucent but not completely clear. In spring and summer flows the Crooked can become notably clear and still bright green, with visibility to several metres and the river bed visible in all but the biggest rapids. The Crooked has a highly attractive water landscape, with interesting hydraulic features where water flows over and around bedrock. In the gorges it is often possible to see large boulders on the river bed. On sunny days (this trip was overcast) the light shines through overhanging green bush into the green water to make a beautiful river scene which looks more like the scenes accessible with remote helo access. This is also the case, though to a lesser extent, in the Lower Crooked, making this one of the most attractive kayak runs for water quality in the intermediate bracket on the West Coast, in my opinion.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	In the Upper Crooked, the valley sides are steep from top to bottom and bush overhangs the gorge walls beside the river. Views are therefore not expansive but the interplay of light between bush, rock and water is remarkable. At the start of the Lower section, the valley widens into grazing and is less attractive. However, the Crooked River Reserve of the lower section is beautiful unspoilt bush and contains a very scenic gorge with walls that nearly join above you.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The Upper has a moderate to high wilderness feel due to the strenuous and at times complex walk in, combined with the absolute absence of sign of people from the river. It is, however, a relatively short section and so wilderness feel is reduced. It ends when a pristine shallow gorge opens out to an old bridge in farmland which ends all feeling of wilderness. The Lower starts at this same place so has a much lower sense of wilderness. However, the pristine gorge in the Crooked River Reserve gives a feeling of wilderness that is very suited to its mainly intermediate-skilled user group.
Notable flora and fauna	None this trip.

(eg blue duck)	
Description of overall character of river	Both sections of the Crooked are known for their natural beauty and apt technical challenge. The Upper Crooked is the walk-in heli trip of the West Coast, with a high degree of physical and skills challenge and a strong wilderness feel. On a hot summer's day with a good flow it is almost as good as the best of the West Coast heli trips. Its dangers have been more respected in recent years since the drowning of a technically very competent kayaker in 2004. The Lower Crooked is a great river to introduce intermediate kayakers to g3 river trips, with suitable challenging rapids and scenery. Both section are popular with local and Christchurch kayakers and overseas visitors in summer.
Distinctive features of river trip (key words)	Upper: walk-in; short; intense; green; twisting Lower: drive-in; intermediate; scenic
Info for land managers	Although key access is not a major hassle, it is a challenge to accessing the Crooked River and can delay groups. Maintenance of the trail to the Upper section probably has the biggest impact on users of the river, in terms of less experienced people getting lost and tired before getting on the river, therefore exposing themselves to greater risk. The levels of use, though higher than on many rivers, appear to make little impact on the land.
Info for rescue managers	Loss of life for a kayaker has happened on this river, in a rapid called "Bent and Twisted" in 2004 (see Operation Crooked). It is not unlikely to happen again, as the Crooked attracts visiting kayakers who have time to take a day off heli trips yet still want top quality kayaking. The dangers of the Crooked – bush travel followed by sieves and strainers in a g5 gorge – are not well known by most overseas kayakers. Almost all of the Crooked can be aerially searched although the tightness of the gorge better suited a Hughes 500 than a Squirrel in 2004. I would recommend an experienced whitewater spotter accompany any aerial search. Kayak teams can search effectively from much further upstream than the put-in noted here. The Upper Crooked, anywhere, should be treated as a g5 section with portaging expected. Allow 1-3 hours for the 'normal' kayaking Upper Crooked trip and 1-2 hours for the Lower Crooked section. In both cases, expect a reasonably high POD assuming good water clarity.

Any other notes 	Kayakers have used helo access to kayak the “upper upper” Crooked from around Jacko Flat hut. Photos:  Upper put in  Upper Crooked gorge Lower Crooked gorge

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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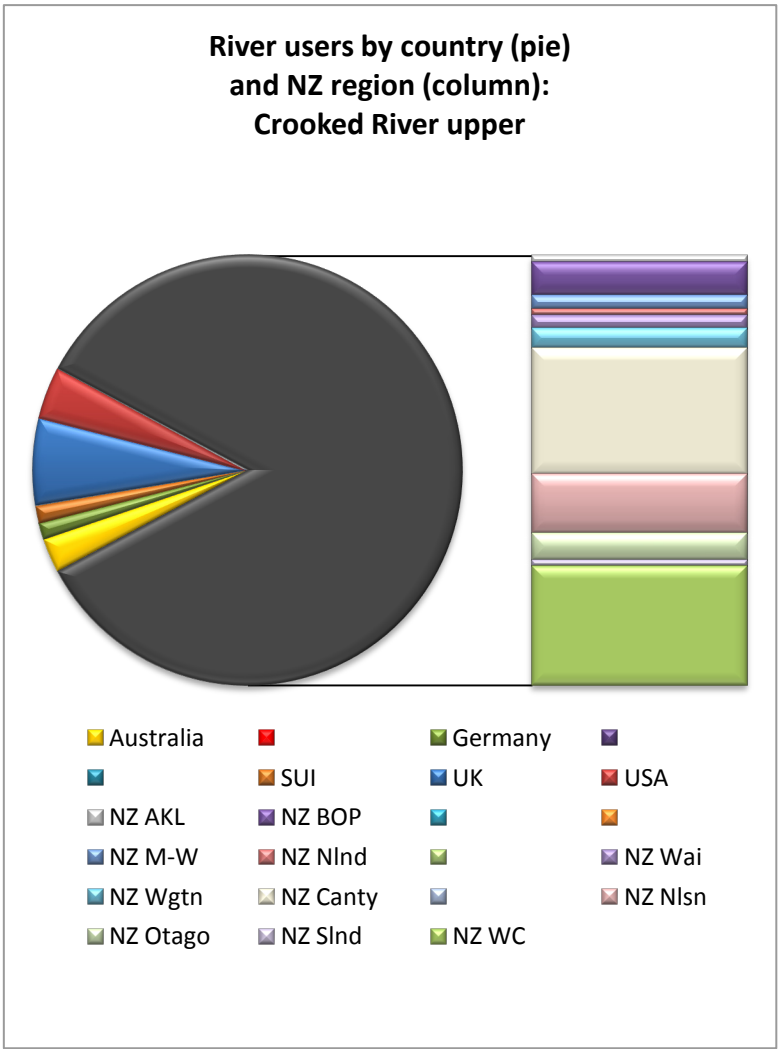
The bigger the block, the more people scored that number



Numbers Upper Crooked	
Total number trips recorded	239
Number of respondents for this section	74
Mean number trips per person	3.2

Numbers Lower Crooked	
Total number trips recorded	671
Number of respondents for this section	105
Mean number trips per	6.4

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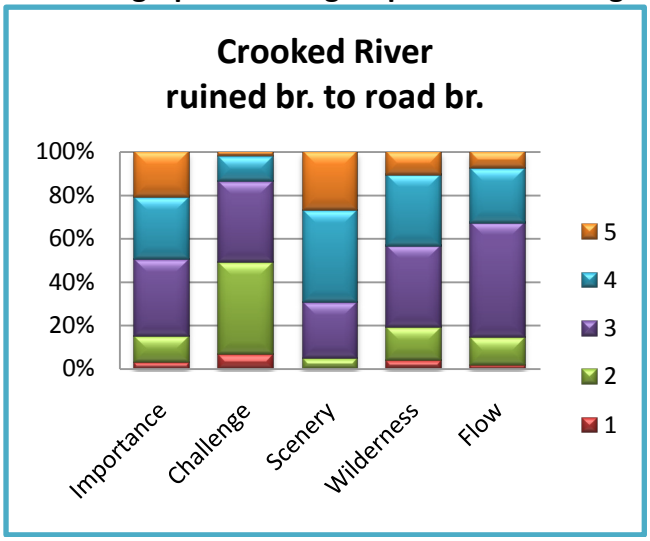
% column graphs showing respondents' scoring of river attributes



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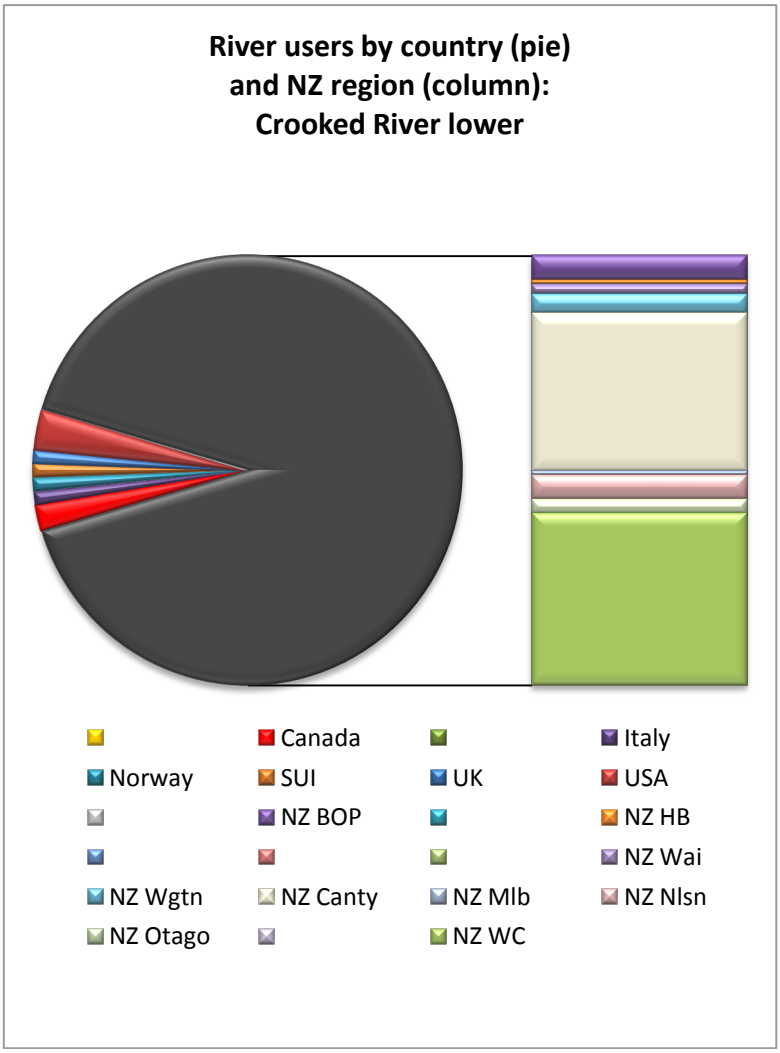

Numbers Lower Crooked	
Total number trips recorded	671
Number of respondents for this section	105
Mean number trips per person	6.4

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Grey (Upper Grey/Gentle Annie)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	I did this as a single day trip and will report on it as such, but it is done as a two day trip. We put in by walking down a cut in bush to a small creek just upstream of McVicars Creek bridge and before a locked gate: 42° 21.390'S 171° 56.572'E 129102. The two-day starts from Palmer Road accessed from Springs Junction, at approx. 42° 27.56'S 172° 1.50'E 198987	Most people take out river left on Waipuna Road (or even at the road bridge on SH7), approx. 42° 21.758'S 171° 49.418'E 032093 On a previous trip, I took out at the bottom of Staircase Creek to avoid the flat water paddle out. This track in now in disrepair so this take-out is not used. On this trip, I took out river right at paddocks at the end of the track by Brown Creek, approx. 42° 21.474'S 51.317'E 057098
Access description	Assuming put in at McVicars and take out on Waipuna Road: 2wd vehicular access from SH7 up Snowy Road to put in; shuttle vehicle up Waipuna Road. This is a long shuttle along dusty, windy roads. The two day trip has a huge shuttle, with travel through Reefton and over Rahu Saddle. The trip we did involved 7km of 4wd access to the take-out.	
Land status (banks)		
Date kayaked (for this report)	8th December 2010	
Group members (on this trip)	Ryan O'Connor(Greymouth High School student, NZ) Kale Woodward (" " " ") Amy Devlin (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic bouldery grade 2 and 3 whitewater, pool drop in nature. Rapids tend to be wide (10-25m) with multiple lines and hydraulic features mainly formed by broken boulders and occasionally trees. Rapids are long enough that the entire rapid cannot always be seen from upstream seated in a kayak. On this trip, flow was estimated at around 20 cumecs, which was very low but quite satisfactory (following an extremely dry spring). From experience, the trip is faster and slightly harder with more flow and can be run up to flood flows when large	

	hydraulic features can be expected. This gives the Upper Grey a very broad range and high reliability.
Description of water landscape (inc. water quality and clarity, river bed features)	Water was green-turquoise and clear, with great visibility to depths of several metres. Clean, odourless and drinkable. Pool drop nature means there are many flatter sections with views into the water. River bed has varied rock, mostly boulders and occasional bedrock, with lots of granite and some quartz boulders. The combination provided some of the most beautiful water landscapes I've seen: rock and sand river bed refracted though crystal clear water with a green tint.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The upper Grey valley is a dramatic V-shaped valley surrounded by craggy-topped mountains that are taller than the beech bushline. The river is wide enough in most places that views are panoramic and very impressive. Gentle Annie Gorge is never very narrow but has impressive steep walls with a mixture of bedrock and unconsolidated rocks, as does the flat water gorge downstream. The trip is mostly surrounded by beech forest on both banks, with *toe toe* close to the water's edge and some grassy flats which are grazed.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	For a drive-in river with some farmland present, the Upper Grey has a notably high wilderness feel. There are occasional 4wd tracks and bush huts, but the overall impression is one of pristine back country. The relatively short one-day trip reduces the wilderness feel to moderate for someone used to wilderness, but it would be very high for newcomers to wilderness. We encountered 2 anglers on the river and 3 at the take-out. This trip is popular for fishing and rafting. I have not done the two-day trip but imagine it would have a higher wilderness feel.
Notable flora and fauna (eg blue duck)	Fish and eels visible. Deer sign. Canada geese.
Description of overall character of river	A high quality scenic moderate run with length options makes this a classic 'advanced beginner' trip, a step up from the Arnold for local paddlers; ideal for those who appreciate river scenery or wish to camp out. Long drive for access. Although I haven't done this as an overnight trip, there are few other possibilities for moderate whitewater overnight trips in the central West Coast area, making this trip very important for that niche.
Distinctive features of river trip (key words)	Grade 3; pool drop; reliable flow; improver; scenic; camping; overnight
Info for land managers	Put-in at McVicars is fine. It would be great for river users if the track at Staircase Creek was fixed for a take-out. All other arrangements fine as they stand: it is important that

	camping possibilities continue to exist as this trip is an ideal overnight and they are rare in central West Coast.
Info for rescue managers	It is quite likely that a hunter or angler will fall in to this river section: it is not unlikely that a kayaker or rafter will get stuck on a log as they are common and change frequently. At low flows with clear water, this stretch could be searched effectively by a whitewater team. A helo search would also quite likely be effective as there are few overhanging features and snag points are obvious to whitewater-experienced spotters. Underwater visibility is very good. At higher flows or after rain, these conditions are poorer as the river becomes silty. Most of the river flows quickly with few points to snag a body. However, there are obvious large eddies and some logs midcurrent. A whitewater team would require 4-6 hours to search the shortened section (McVicars to Brown Creek track/Waipuna Road). Possibly longer if a detailed search is required as the river is wide in places and would require a team to cover a lot of water. At low-medium clear flows expect a high POD, reducing significantly with raised water levels or siltiness.
 	 Above: McVicars put in Left: typical river scenery Below: typical rapid 

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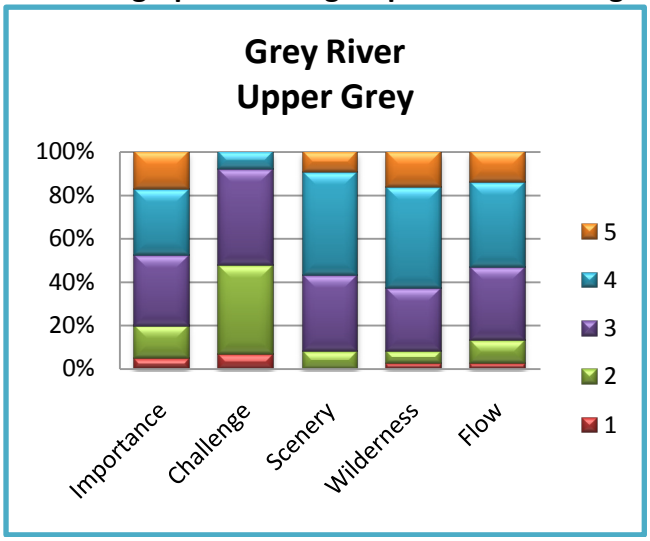
% column graphs showing respondents' scoring of river attributes



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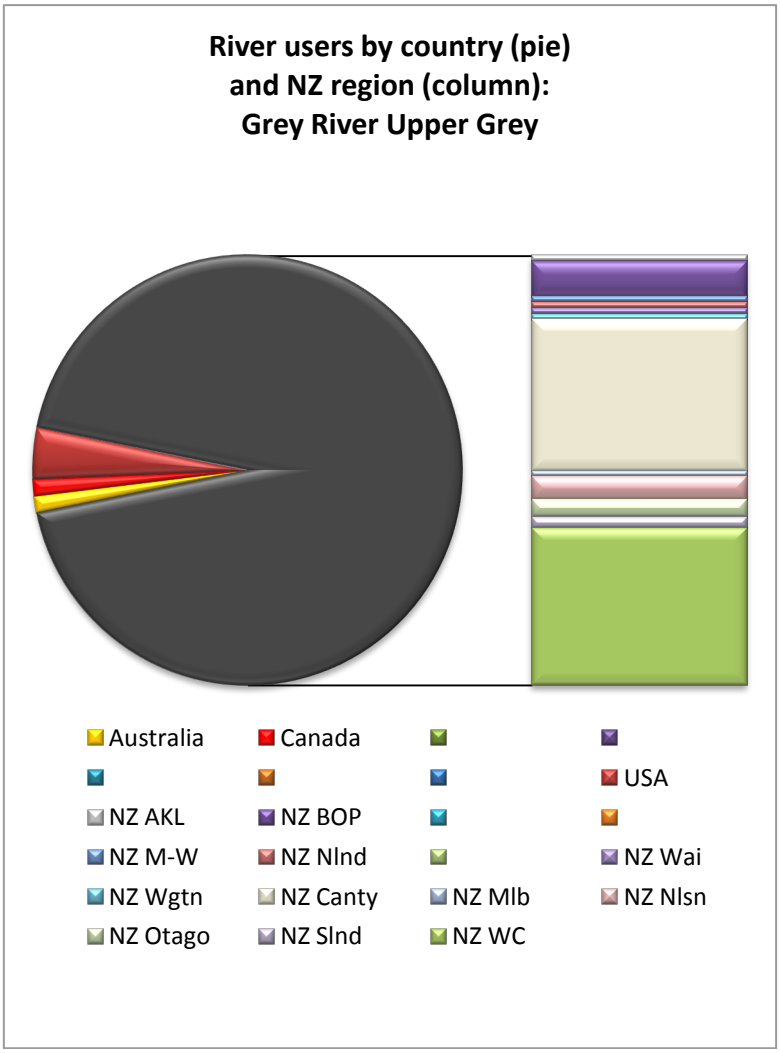
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number



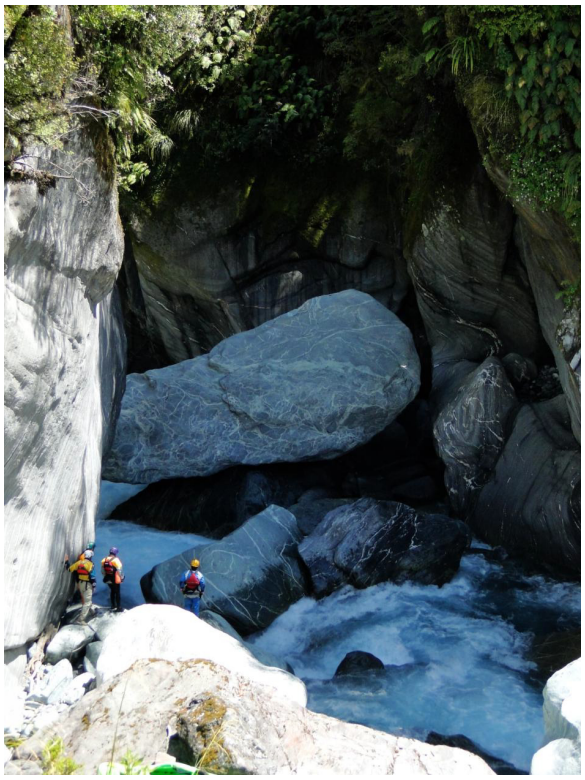
Numbers	
Total number trips recorded	363
Number of respondents for this section	85
Mean number trips per person	4.3

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Hokitika from Serpentine ("Upper Hoki") inc. "Lower Hoki"	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	436358 43°01'26.94"S 171°05'11.75"E Bank on river left just upstream of Serpentine hut Put-in for 'Lower Hoki' is approx. 406365	366386 42°59'09.79"S 170°59'48.30"E This is the heli take-off and landing as opposed to where we take out from river. It is by the cableway
Access description	Helicopter (Kokatahi helicopters) from end of 4wd road, location above. Actual landing by river varies as the river frequently floods and washes sites away. No-one walks in to this section.	
Land status of banks		
Date kayaked (for this report)	04-02-2010	
Group members (on this trip)	Colin Biggin (Scotland) Andy England (NZ) Mary Harrop (US) James McLafferty (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Grade 5 trip; mostly g4 and 5 rapids to Kakariki Canyon, then g3-4 to confluence then g2 to take-out. Rapids usually steep (for NZ) and pool-drop ie often one critical move to be made with serious consequences for not making it. Steep narrow gorges increase seriousness of trip. Relatively low volume kayaking for West Coast NZ, especially at lower flows. Quite reliable in summer; main reasons not to kayak this section are flows to high (for ability or too high for safety) or too cold due to deep gorges. Flow on this trip low, meaning river easier to navigate and rapids harder to portage although sieves common. Easier at lower flows, harder at higher flows as rapids become faster and more powerful and sometimes run into each other. Gorges cause high flows to concentrate and some portages are not possible.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip (low flow) water very clear and blue-green with high visibility underwater. Clean. Intense colour combination of blue-green with white of rapids and silver-grey of rocks around. Rapids usually bouldery with single choice chute and steep drops; river bed visible part of scenery. Rapids change annually or more often with floods.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Vertical sided narrow gorges characterise this run, with the famous "Gates of Argonath" towards the end of the 'upper' run. Waterfalls from tributaries common. Between gorges, valley remains steep with large slips through native vegetation. Some views to mountain tops.	

Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Other than Serpentine Hut, there is no sign of humans until near the confluence with Whitcombe. Add to this the amazing and intimidating gorges, steep and loose valley sides with no trail, and you get a strong sense of wilderness. Several kayakers have walked out, usually taking 12 hours or more despite short distance. Short distance and short flight do reduce feel of remoteness.
Notable flora and fauna (eg blue duck)	None noted on this trip.
Description of overall character of river	Steep and stunning gorges separated by classic steep low volume pool drop whitewater with lots of action and no let-up from start to the confluence with Whitcombe. Incredible river scenery and wilderness feel close to town. One of the West Coast's top classic g5 trips, this is a 'must-do' trip for capable visitors and locals alike. All but the very top class kayakers put it towards the end of their trip or summer to build up to this trip due to its seriousness.
Distinctive features of river trip (key words)	Gorges; steep; pool-drop; technical; Gates of Argonath; grade 5
Info for land managers	Helicopter access essential. Access to heli site at end of 4wd road (through locked gate) is useful as it is a long flight in from Hoki Gorge and a long flat paddle out. This is a well used section with most able visitors kayaking it at least once. Serpentine Hut necessary for "Upper upper" and Mungo trips. Nothing else really needed for kayakers.
Info for rescue managers	This is a rescue nightmare, where land teams will struggle due to bluffs and steepness of sides. Quite likely that a kayaker will get lost on way out at some point, as people try to follow valley if they lose their kayak in an accident as does happen. River accidents likely too, with sieves and lots of hard whitewater. Drowning potential high. Lots of places for bodies to stick – don't expect bodies to travel far except at very high flows. Flow knowledge critical. Body or injured person extraction impossible by kayak or land teams: helo required. Large parts of section unable to be scouted from air due to steep sides and narrow gorges. Helo landing possible in Hughes 300/500 between gorges. Good teams should be capable of searching this section safely at low flows but accept increased risk whenever above base flow. Not suitable with impending heavy rainfall. Any team would require 10 hours minimum for detailed search but an experienced team could check this section for a conscious target in about 5 hours river time.

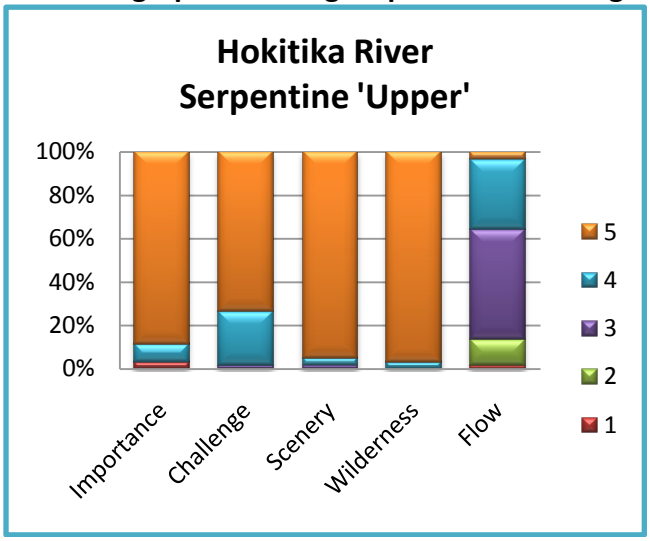
left: typical gorge entry

right: Gates of Argonath



Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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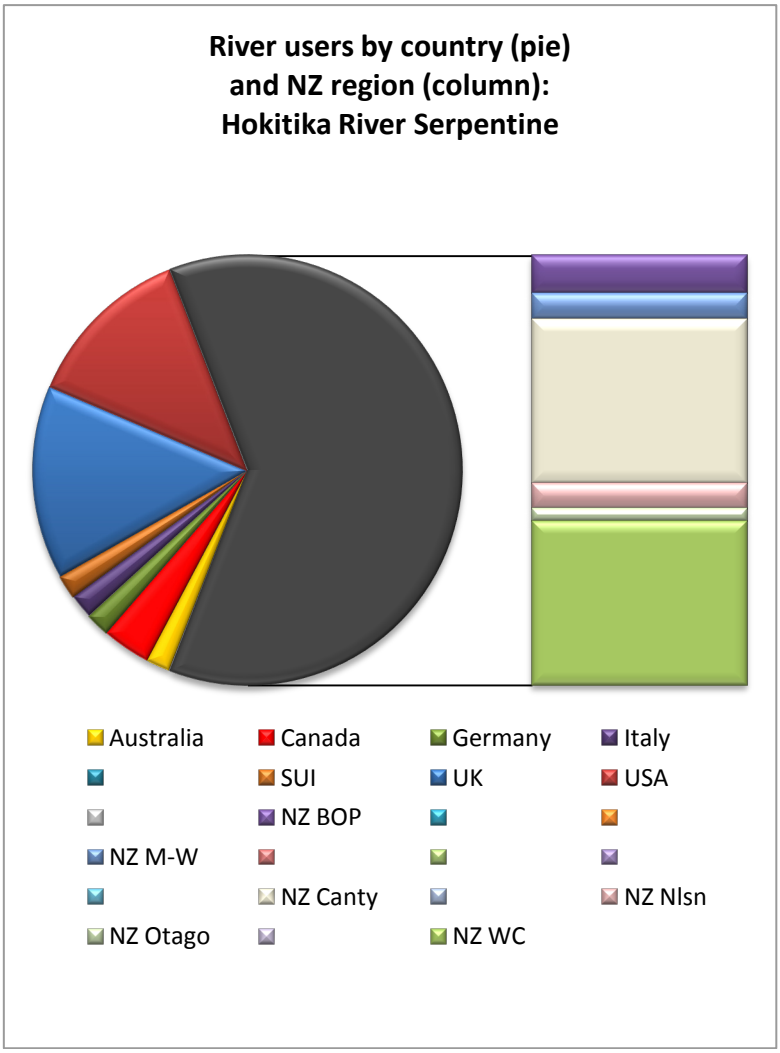
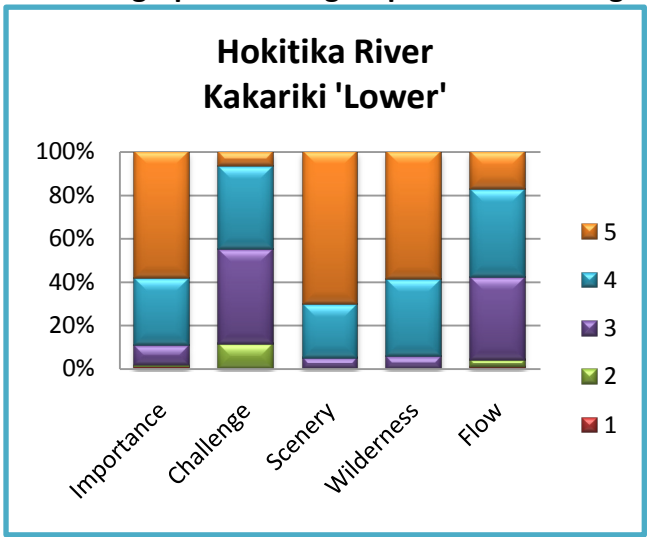


Numbers	
Total number trips recorded	185
Number of respondents for this section	59
Mean number trips per person	3.1

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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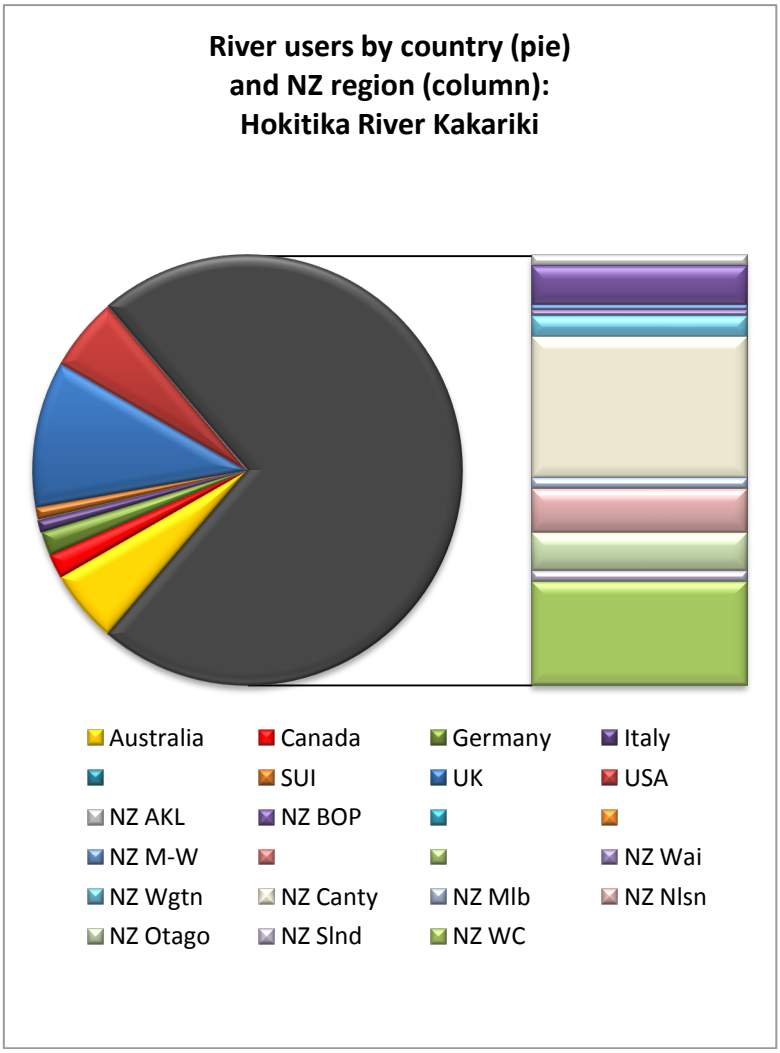


Numbers	
Total number trips recorded	504
Number of respondents for this section	120
Mean number trips per person	4.2

Notes

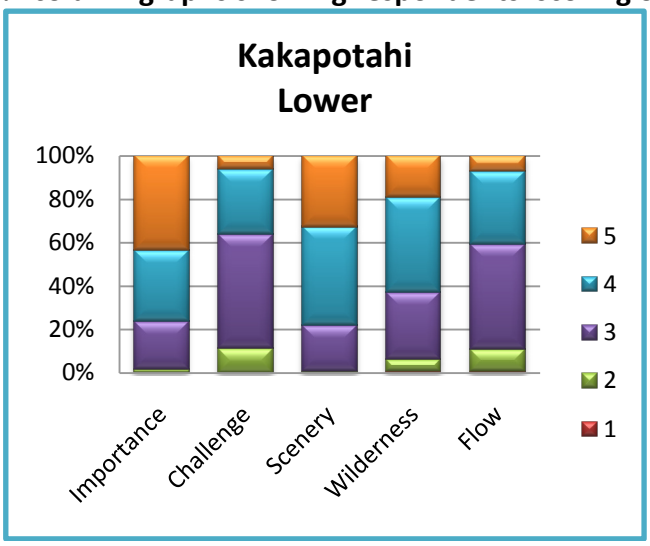
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Kakapotahi Lower	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	At take out for Kakapotahi Upper approx: 177 357 43° 1.639'S 170° 45.674'E	At paddocks on river left with walk to gravel road parking approx: 147 380 42° 59.273'S 170° 43.516'E
Access description	Gravel road drive. Access from south (west) of Kakapotahi road bridge on SH6. Take out parking on road side where farm track heads left down terrace at approx 143 380. Drive 6.5km further south east to clearing at approx 176 356. Put in requires knowledge to find due to being hidden in gorse at side of clearing. Climb down steep bank in small creek.	
Land status (banks)		
Date kayaked (for this report)	6th September 2010	
Group members (on this trip)	Trent Garnham (NZ) Jared Mitchell (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Approx. 7.5km of good quality g3 and 4 whitewater. Hardest rapid (g4+ depending on flow) is in first 1km in a gorge (often portaged right). Double ledge drop with powerful hydraulic. Following that, there are several easier gorges with biggest rapids often formed by slips (therefore variable features). Usually 'read and run' (boat scout) rapids with hydraulics as main obstacle. Many wave features. Best kayaked after rain and can be run quite high, but becomes very powerful after heavy rain and rises very quickly. Usually considered to be best when the Upper Kakapotahi is too high. On this trip, a 'good' flow (deep water lines and no hull scraping) was at about 50-60m3/s, estimated. Due to being suitable at such a wide variety of flows, the Lower Kakapotahi is a very reliable trip.	
Description of water landscape (inc. water quality and clarity, river bed features)	Due to need for rain-fed flows, the Lower Kakapotahi is rarely clear and usually silty brown, often turbid. On this trip is was grey-brown with limited underwater visibility. There are times, usually in spring, when the water will run completely clear and green with great visibility, but these times are rare in the Lower Kakapotahi. Cleanliness is hard to estimate but I sip from the river with no problems. The river bed is primarily boulders from slips, some of which are sharp from being fresh, with short sections of bedrock (which are usually the deepest sections due to being in bedrock gorges). The limited visibility through water means the river bed can't be described fully. After the last gorge, the river bed is primarily	

	rounded granite boulders.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Lower Kakapotahi passes through impressive native podocarp forest with no exotic plants visible from river level until after the last gorge (farmland). There are several bedrock gorges which have low vertical sides (roughly 10m). In some places, waterfalls cascade in impressively from the gorge sides. In the more open sections, there are slips visible from the river and the river often becomes wider at these points with more varied rapids. After the last gorge, the Lower Kakapotahi opens out into farmland on river left. River right still has native forest and there is a vertical cliff side of unconsolidated glacial deposits covered in ferns with waterfalls: the main river used to flow directly under these cliffs providing a spectacular take-out but major floods in 2004 diverted the flow to the left and deposited a bank of shingle in front of these cliffs.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Due to the drive in and farmland take-out, the Lower Kakapotahi does not have a particularly high wilderness feel. However, the lack of sign of human influence in the main part of the trip as well as significant difficulty for a walk-out option, make for a reasonable degree of wilderness feel. If this river was not on the West Coast, it would be judges to have a high wilderness feel.
Notable flora and fauna (eg blue duck)	None seen on this trip.
Description of overall character of river	The Lower Kakapotahi is a classic intermediate g3-4 river trip enjoyed by many kayakers from and visiting the West Coast, year round. It is almost a compulsory 'warm-up' run for early season and tourists. It is equally an important high flow or 'play' run for more experienced kayakers. The trip has all the characteristics of a quality river trip: diverse rapids with a range of hazards and challenges; waves for play as well; weather-dependent flow changes; good scenery and a pleasant half day length. Its broad range of suitable flows makes it suitable for some kayakers most of the time.
Distinctive features of river trip (key words)	Intermediate; gorges; rain-fed; slips; hydraulics; play; classic
Info for land managers	Road access through forestry works very well for kayakers at present. This river has a very high usage and improved access could be considered: current access from the road is by scrambling down a small creek on a steep bank though gorse. Egress is through farmland and has seen no problem with farmers yet, although could be possible downstream at SH6 bridge if necessary.
Info for rescue managers	The Lower Kakapotahi has lots of potential for kayakers to get lost, most likely through attempts to walk out following an incident through bush. It is hard to imagine many other people using the river banks. Any search would be easiest to conduct by kayak as river banks

	are very slow to travel along and frequently bluffed out. There are entrapment possibilities for swimmers although the many kayakers who have swum in here is evidence that people generally get to safety. Search underwater limited by usual lack of visibility. Many rapids are wide giving a very high number of search foci, with narrower sections being too powerful to search underwater. Although I describe this river as being suitable for intermediate kayakers, a search team should be g.5 capable. Allow 2 hours for a quick search, 8 hours for a detailed search. In summary, a search for a live person is likely to be successful in offering a high POD. A search for a dead person is likely to have a low POD.
Any other notes	The crux  Slips  Gorges  The take-out from road 

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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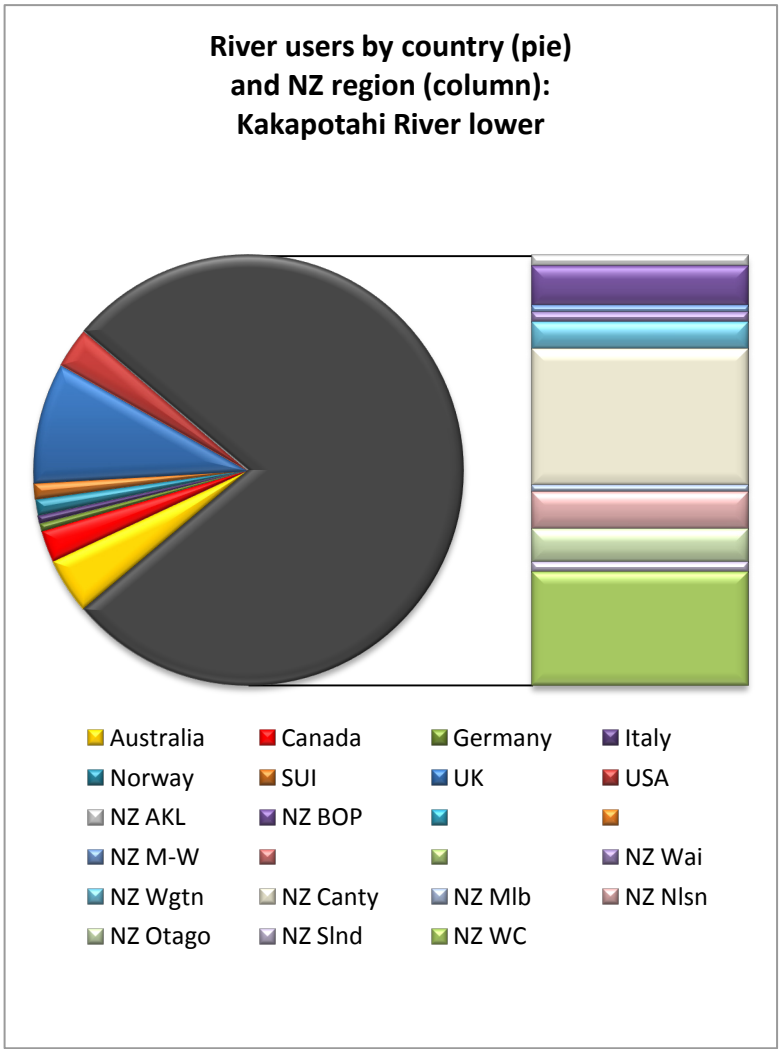
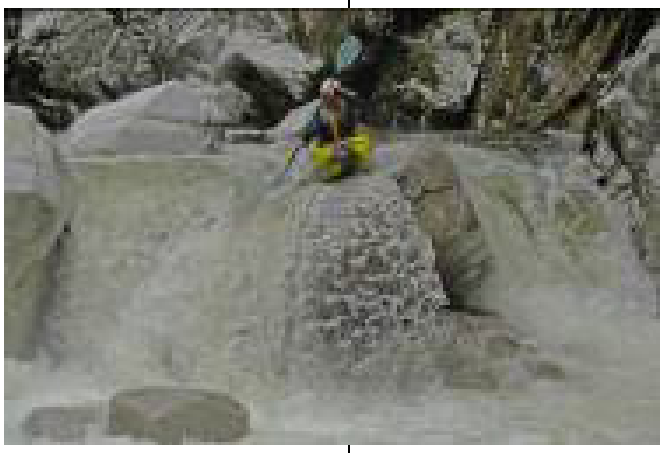


Numbers	
Total number trips recorded	1556
Number of respondents for this section	175
Mean number trips per person	8.9

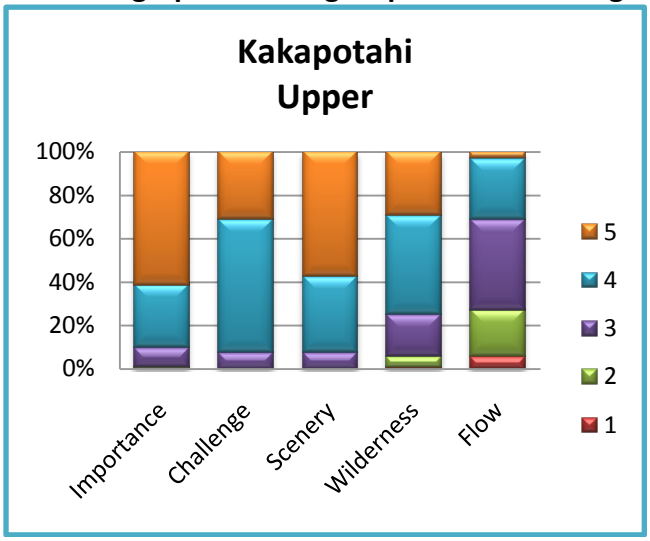
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Kakapotahi (upper)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	On shingle bank at end of river flats approx: 183 329 43° 2.080'S 170° 46.152'E	After gorge where river bends to right and where river closest to road approx: 177 357 43° 1.639'S 170° 45.674'E
Access description	Road access along gravel road from south (west) of Kakapotahi road bridge on SH6. Park next to old (removed) bridge at approx. 182 330 and walk about 100m upstream through farm paddock to Kakapotahi river. Take out requires knowledge but is at put-in for Lower Kakapotahi section, close to road. Climb up steep bank to parking at approx. 176 356.	
Land status (banks)		
Date kayaked (for this report)	2nd March 2010	
Group members (on this trip)	Norwood Scott in canoe (USA) Scott Kazmar (USA) Olaf Koehler (USA) Andy England (NZ) There were also 4 NZ kayakers in a separate group.	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	This is usually quite low volume (under 20m3/s) short and steep kayaking on granite bedrock in a low but vertical-walled gorge. The Kakapotahi is kayaked at higher flows and at these time it is, in places, harder than described here. On this trip the flow was medium low, so everything was possible but boats did hit rock in some rapids. Water was translucent brown. The Upper Kakapotahi would have to be given a g.5 but in truth it is an easier g.5 than most and would usually be considered a g4 with one g5 or portage depending on movement of the river bed. It has a series of 7 main rapids separated mostly by pools. At high flows, these rapids appear much closer together. The rapids are unusual for the West Coast, in that 3 of them are waterfall/rock slides. They typically have only one main move to make for a kayaker. The Upper Kakapotahi requires an increased flow to be able to run most of its rapids, but not too much rain. It flows reliably in spring and usually in summer except for dry spells, as well as any other time of year after some rain.	
Description of water landscape (inc. water quality and clarity, river	On this trip, the Kakapotahi was brown and translucent, with some underwater visibility. I have kayaked this section with good spring flows when the water has been completely transparent	

bed features)	allowing full underwater visibility, and at times when it has been opaque silty brown. When the river is clear, the bedrock and large granite boulders are impressive from the river, particularly because they are different from most West Coast kayak trips.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Upper Kakapotahi enters a small gorge within 100m of the put-in and more or less stays in this gorge for all of its approx. 1.5km length. The gorge is granite and overhung by native bush, creating spectacular light patterns and beautiful close-up scenery on sunny days. Wider views are not possible from the river.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The Upper Kakapotahi does not have a high wilderness feel due to the drive in nature, farmland and old bridge at the put-in and shortness of the run. It is also a very busy river so it is common to meet other kayakers, further reducing the wilderness feel. However, the gorge is almost inescapable and the drops are hard to scout. There is little or no sign of humans in the gorge itself and the gorge and bush is pristine.
Notable flora and fauna (eg blue duck)	None noted on this trip.
Description of overall character of river	This is one of the West Coast's most accessible g4-5 kayak trips and is great fun at the right flow, plus accepts a variety of flows. This makes it one of the most popular kayak trips on the West Coast, with locals and tourist kayakers alike. It is a short, intense trip with plenty of technical challenge and a very pretty gorge.
Distinctive features of river trip (key words)	Granite; waterfalls; short; road access; fun
Info for land managers	Road access is essential to kayakers for the Kakapotahi. Little else is required.
Info for rescue managers	With farmland upstream, it is unlikely that anyone other than kayakers would get into the Kakapotahi. A kayak team should rescue itself. If a team is missing following heavy rain, it is possible they have just waited for lower flows within the gorge as has happened several times. Assuming the gorge needs to be searched, recent prior knowledge within the team is essential due to dangers of wood and river bed movements. Lower flows, down to very low, are manageable by kayak teams (extreme low flows have to be treated like canyoning). There are several likely places for bodies to snag in the Upper Kakapotahi. Clear water would give a very high POD due to the small nature of the river bed. Allow 1-2 hours for a team for the Upper Kakapotahi.



Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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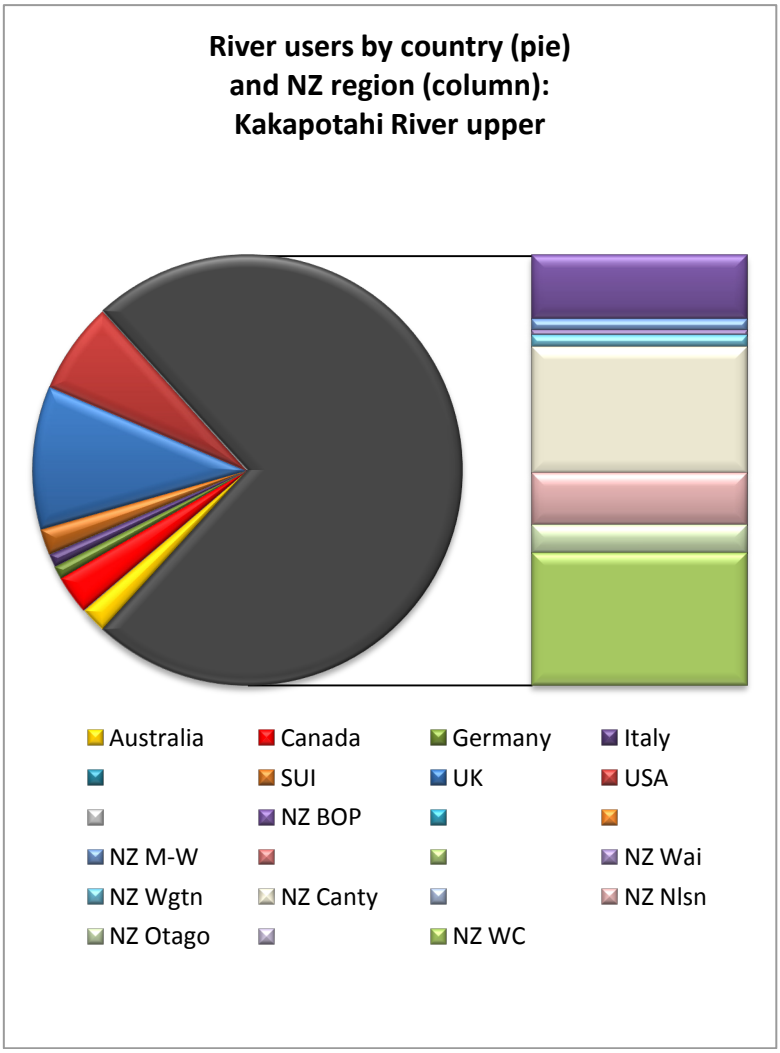
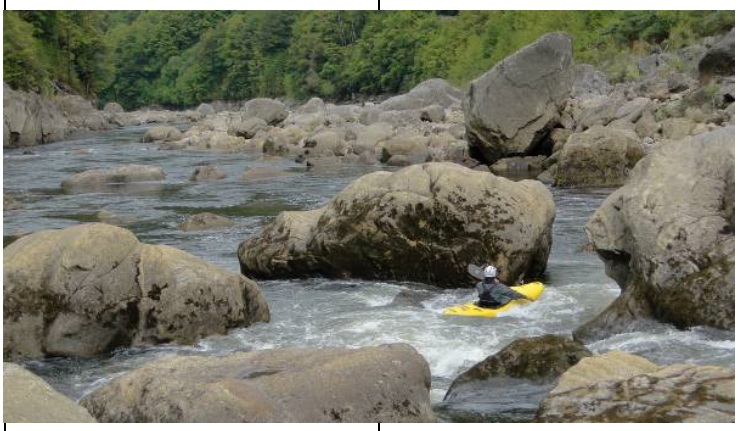


Numbers	
Total number trips recorded	769
Number of respondents for this section	101
Mean number trips per person	7.6

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Karamea (from Venus Hut)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	There are many put in options. I went to Venus Hut, approx: 41° 18.972'S 172° 26.358'E 531259	On river left near road end approx: 41° 14.859'S 172° 12.608'E 337335
Access description	Helo from Karamea aerodrome with Helicharter Karamea (Wayne Pratt). Requires vehicle shuttle to take-out.	
Land status (banks)		
Date kayaked (for this report)	12 and 13 December 2010	
Group members (on this trip)	Helen Brosnan (NZ) Greg Nicks (UK/NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	This was a very low flow, below 1.0 on the gauge, which changed the nature of the kayaking. The Karamea is a very long trip (48km) so changes in character along its length. From Venus Hut to Crow Hut the river is fairly continuous grade 3+ kayaking through chutes and small boulders. After Crow Hut the river widens and there are more flat water sections with occasional grade 4 rapids between, as far as Roaring Lion Hut. From here, there is a flat section of earthquake lakes followed by a long and technical g4+ rapid, Roaring Lion. On this trip, this rapid was too low and water was flowing under rocks causing sieves, so the rapid was portaged on river left (and is commonly). After Roaring Lion rapids, the Karamea continues as pool-drop g4 kayaking with an incredible number of rapids, right to the end of the gorge which is very close to the takeout. The Karamea ideally needs some additional water from rain, but has a large range giving it a reliable flow.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water was remarkably clear with a brown tint and great visibility. The river bed is mostly granite and limestone, with rounded boulders or fine gravels visible on the bed.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The valley is amazingly continuous pristine native forest along its length. Views vary from steep V-shaped valleys to expansive valleys with cliffy limestone mountain tops. There are a few shallow granite gorges with scoured walls.	
Description of degree of wilderness feel (inc. presence or absence of human influence,	The flight in is a long flight through spectacular terrain and once away from huts and trails there is a strong sense of wilderness. To me, the fairly frequent crossing of tracks and presence of huts reduced the feeling of wilderness to an extent, although it was	

remoteness)	still clear that it was a long way out though largely untouched country.
Notable flora and fauna (eg blue duck)	A colony of shags near Crow Hut. Lots of trout were visible from kayak: 14 sighted in one pool.
Description of overall character of river	The Karamea is *the* classic 1-3 night river journey with even longer options available, through a stunningly pristine natural environment. It is mostly pool drop grade 4 boulder garden kayaking. The Karamea is listed in most international adventure tourism books as a 'must do' rafting or kayaking trip and deserves its place, although to me the most amazing feature of the river is its journeying quality rather than spectacular whitewater or scenery such as is found on other West Coast rivers.
Distinctive features of river trip (key words)	Overnight; camping; journey; grade 4; pool drop; scenery
Info for land managers	Helicopter access is critical to the Karamea and numbers of kayak/raft users are unlikely to ever clash with other users of this area. The anglers we met were happy to see us. It is essential that heli access is preserved to enable use of this area. No other land management action is critical, as kayakers/rafters could camp although huts are useful for lighter weight travel.
Info for rescue managers	The Karamea is likely to need to be searched as so many anglers and trampers use the area. A helo search would be effective as there are very few gorged/overhung parts: an experienced whitewater spotter should be taken as snag points are not obvious and there are so many along the length of the river. We kayaked 44km in 16 hours of kayaking, moving faster than I would choose to when searching: search managers should try hard to refine the area they need searched and target that area. In low flows, visibility in water in the upper sections is good. In the lower sections, river width and depth prevent good visibility. In higher flows, cloudy water prevents visibility. the biggest problem for searching for a body is the area of water to cover. Expect a low POD. WWSAR teams should be experienced and carry overnight gear.

Any other notes



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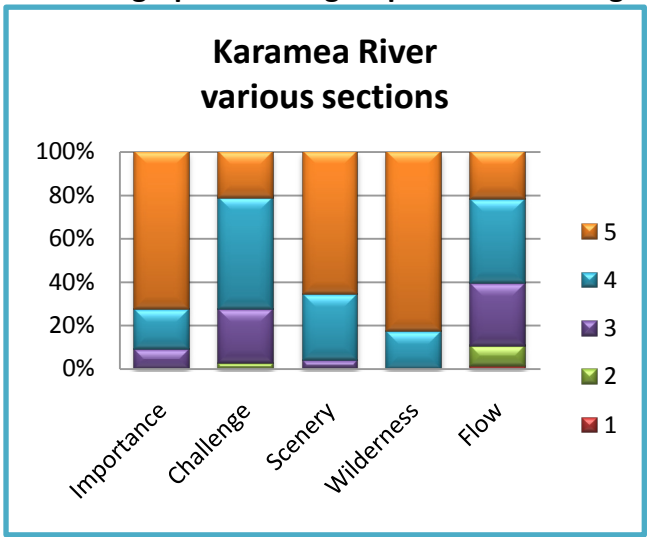

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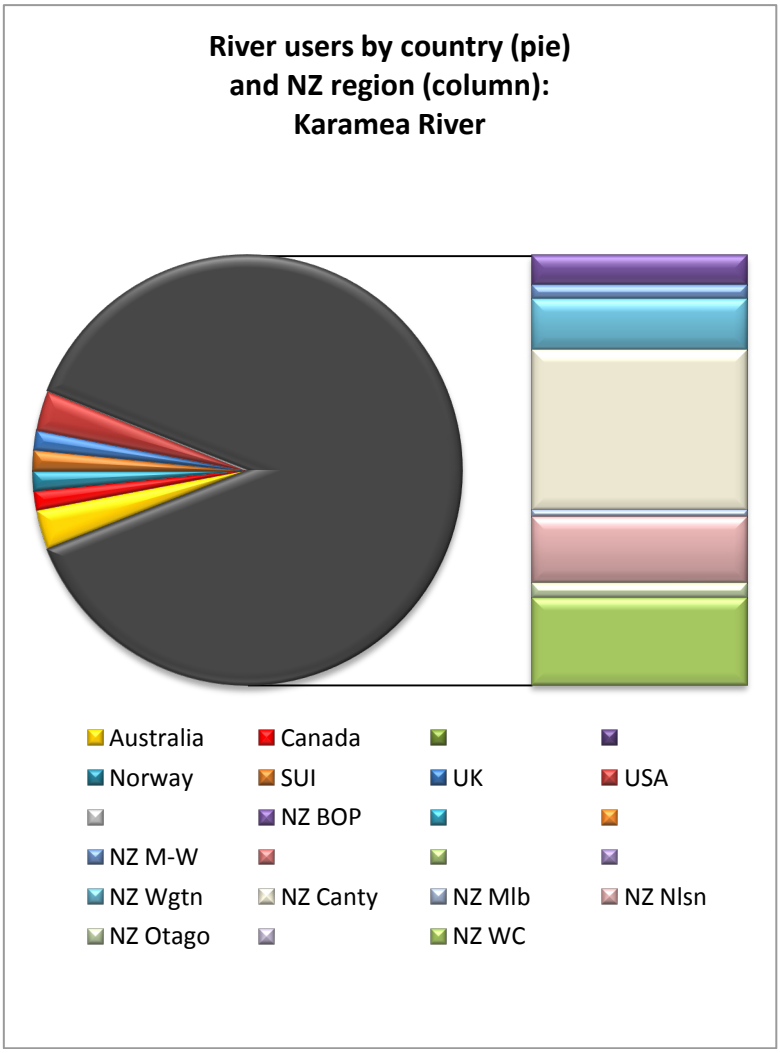


Numbers	
Total number trips recorded	226
Number of respondents for this section	75
Mean number trips per person	3.0

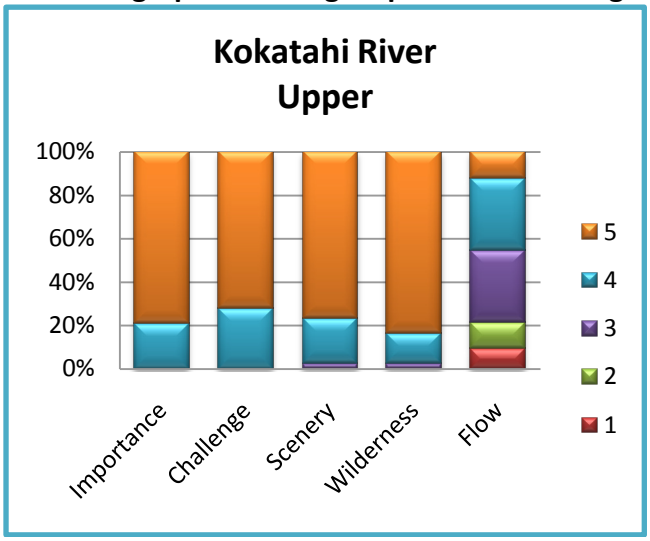
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Kokatahi (Crawford Junction)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Usually at Crawford Junction on river right approx: 556 423 42° 57.539'S 171° 13.783'E Alternative (shorter) approx. 2.7km downstream where trail crosses river at: 538 443 42° 56.503'S 171° 12.489'E	By road bridge river left approx: 476 492 42° 53.714'S 171° 8.021'E (this is also the helo pick up point unless stock are close by, in which case it is usually further up road)
Access description	Helo: usually Kokatahi Helicopters from paddocks on left bank of river at road bridge (Middle Branch Road) 476 492. Usual flight to Crawford Junction sometimes now reduced (see above).	
Land status (banks)		
Date kayaked (for this report)	23rd March 2010	
Group members (on this trip)	Norwood Scott (USA, in C1) Scott Kazmar (USA) Jo ????? (USA) Mary Harrop (USA) Jordy Searle (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Kokatahi is solid g5, steep and technical low-medium volume river kayaking. It has waterfalls, slots and rapids, although most rapids are made of single moves. The gradient is almost continuous, with no flat sections although there are less and more difficult sections. The flow on this trip was low, approx 15-20m3/s. This makes the Kokatahi easier than higher flows as it slows the trip down giving more time to think and plan moves, as well as more bank space to check rapids and/or portage. The Kokatahi can be kayaked at higher flows than this although following rain it is unlikely to be suitable. The Kokatahi flows reliably during summer months and into autumn, due to it suitability at low-medium flows.	
Description of water landscape (inc. water quality and clarity, river bed features)	The river bed is primarily made up of boulder rapids and slips are frequent, causing a highly mobile river bed. There are stunning sections of bedrock river bed including one of the most amazing river landscapes where the river bed is wave shaped and the water flows over this in parallel (see photos). Water is typically bright blue in colour and transparent. It does get silty and turbid at higher flows. Water is always clean and good to drink.	

Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Kokatahi is a very steep sided valley and the upper river section from Crawford Junction to White Creek (level with Boo Boo hut) is all in open steep valley. Views downstream are typically of native bush and slips on the sides although attention is dominated by the immediate river landscape and technical issues. Views upstream are of high alpine mountains, notably Mt Fitzgerald (see photos). From White Creek downstream are several gorges, from low (10m sides) to medium high (50m sides?) All gorges are tight and vertical-sided with impressive rock formations. Around what is labelled Whakarira Gorge on the map (actually a more open section) there is a slip which is usually portaged due to huge boulders creating a river blockage. The boulders are over 40m in some dimensions and one has a crack allowing views through to the river about 15m below.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Although the Kokatahi is quite a short section (about 13km) it has a high wilderness value due to the absence of a riverside track for most of its length, the wild terrain and pristine, active river environment. It does not feel like a river that could easily be evacuated from. The hut and swingbridge in the upper section are hardly noticed, and the trail and swingbridge in the lower section are welcomed by then. However, these factors do slightly reduce the wilderness factor.
Notable flora and fauna (eg blue duck)	None seen on this trip.
Description of overall character of river	The Kokatahi is steep, technical adventure boating in a pristine environment close to town. The changing nature of the river bed, combined with tight gorge entries, keeps kayakers on their toes from flood to flood. Its flow reliability, and the disappearance of a nasty rock weir in floods, has seen a marked increase in visitors since 2007 to the point that some have dubbed the Kokatahi “the new Arahura”.
Distinctive features of river trip (key words)	Steep; technical; pristine; gorges; waterfalls
Info for land managers	Helo access to the Kokatahi is essential. Kayakers use few facilities of the Kokatahi valley, other than the 500m of trail from Adamson Creek to the swingbridge. This is unlikely to change.
Info for rescue managers	Trampers, hunters and kayakers use the Kokatahi valley, although kayakers are most likely to get into the river as swingbridges are provided for land based activities in most likely crossing places. Travel on foot along the Kokatahi River would be very dangerous and slow. Upstream of Whites Creek at 535 463 the river valley opens out and a helo could do an initial sweep search, although I would recommend an experienced whitewater person as a second spotter. A kayak team would be a great advantage if a

	search of the river corridor is considered useful. A kayak team should be capable of g5 although expected to walk most g5 for risk reduction purposes. Therefore, expect slow progress and high physical exertion as portaging is often harder than kayaking in this river. A search from Crawford Junction to the roadbridge would most likely take 12 hours minimum and it may be more useful to concentrate a kayak team's search on a smaller section and consider helo out. Carrying full overnight gear would make progress slower and more dangerous. Kayak teams should not be put in place when there is immediate pending rainfall. It is also inadvisable to use a kayak team when the river is at higher flows or discoloured. A body in the Kokatahi is likely to snag quickly at low flows due to the density of boulders. It is also likely to be recoverable to the bank by an experienced whitewater SAR team due to low overall flow and water clarity. POD would be difficult to estimate given the density of whitewater and the significant size of some whitewater features. A helo evac of an injured kayaker in 2010 was hampered by poor directions given to the helo team, resulting in the casualty staying overnight with a dislocated shoulder. Kayakers rarely use PLBs or carry top maps which did not help.
Any other notes	 Bedrock water landscape

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
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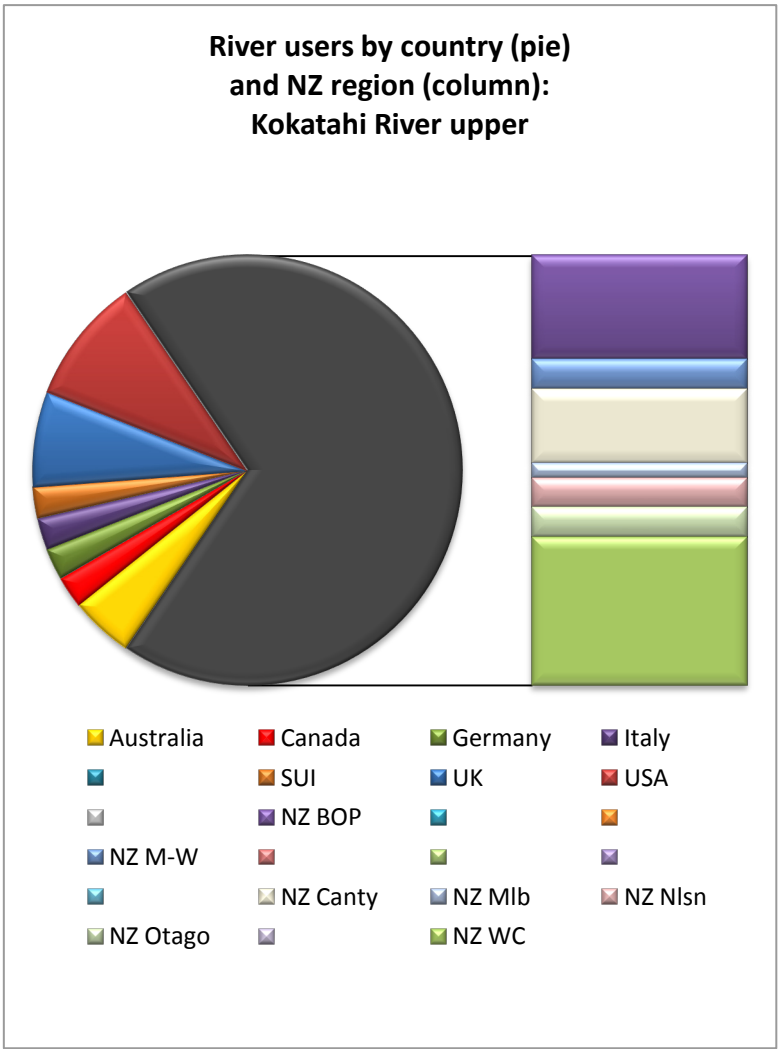


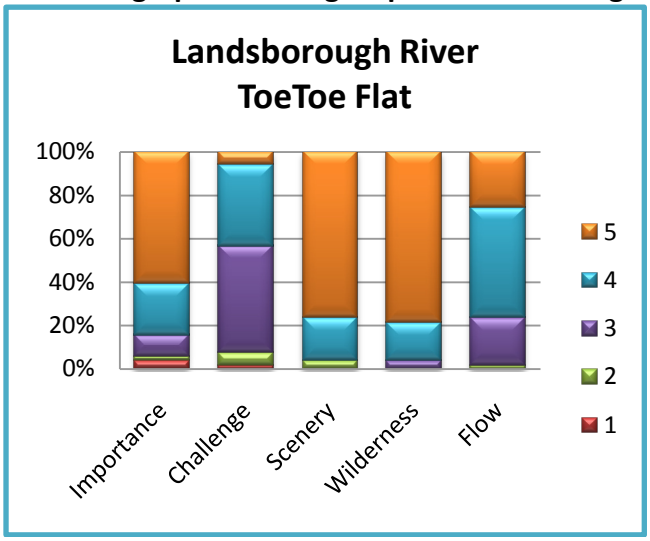
Numbers	
Total number trips recorded	125
Number of respondents for this section	43
Mean number trips per person	2.9

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Lands borough (normal multi day fly-in to Wilderness boundary Toetoe Flat)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Toetoe Flat, approx. 363 352 43° 53.390'S 169° 42.971'E	On Haast River, downstream of Clarke Bluff, approx. 128 250 43° 58.306'S 169° 25.242'E
Access description	Helo access from take-out, for this trip with Harvey Hutton of Makarora. Clients for this trip walked through Brodrick Pass and picked up by helo to get to camp 1 at ToeToe Flat.	
Land status (banks)		
Date kayaked (for this report)	28th and 29th March 2010	
Group members (on this trip)	Accompanied a commercial rafting trip, Hidden Valleys (Grant South): 18 rafters in 3 rafts (all NZ/Aus) 1 kayaker, Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Landsborough at this flow is a g4 river with most of the distance being g1-2, and a g3 gorge with about 3 g.4 rapids. Its style is that of a bigger river ie lower gradient, bigger volume than many West Coast rivers. Rapids are typically multi-move and 30-100m in length, able to be read and run on the go by experienced kayakers and rafters. One or two rapids require scouting from the bank. This trip was following rain but not heavy rain: the river was discoloured but did not seem high. It was hard to estimate the flow due to discolouration. At higher flows the river is apparently harder by being more continuous and having more powerful hydraulics. The flow of the Landsborough, given its broad range of flow suitability, is very reliable.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water was grey-brown in colour and quite opaque. It was, however, clean and I drank from it. The colour of the water would vary considerably depending on the rain history. The river bed varies between shingle rapids to boulder rapids. The water landscape is not the most significant feature of the Landsborough's environment.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Landsborough is in a beautiful, large river valley surrounded by high snow-capped mountains, even in late summer. At all times, there are very impressive panoramic views. As gorges are typically wider than most West Coast rivers, views to surrounding mountains can be seen even in gorges. The gorges themselves are shallow and open compared to other West Coast rivers and it is the valley that makes the biggest	

	contribution to the scenery.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The long flight in and impressive mountains add a significant feeling of wilderness to the Landsborough river trip. Between camps there are few signs of human influence and the valley is largely pristine. However, Queenstown Rafting's semi-permanent camps including solar panels, plus other structures in places, reduce the degree of wilderness feel for experienced wilderness users. This reduction is generally offset by the large scale mountain and river valley vistas.
Notable flora and fauna (eg blue duck)	None noted on this trip.
Description of overall character of river	The Landsborough is known as a wilderness adventure destination river for rafters and a pleasant two day wilderness trip for kayakers, although kayakers are likely to see it as a lower level of wilderness than comparable trips such as the Waiatoto and certainly less than the Waipara or Cascade. The Landsborough is a true river journey with evolving water and valley landscapes along its course. For advanced whitewater kayakers, the focus of the Landsborough trip is more on the environment than the river, although for rafters and less able kayakers there is a very good balance between technical challenge and wilderness feel. Crucial is the 2 day element, although in my case I completed the river trip in one day (overnighted at Camp 1, Toetoe Flat).
Distinctive features of river trip (key words)	River journey; wilderness; valley landscapes; multi day; camping;
Info for land managers	It is a great shame that the Landsborough upstream of Toetoe Flat cannot be accessed by helo – necessary for boats – as this would add at least another day to the journey, making the Landsborough one of the world's destination river journeys. Structures in place may be useful to high end commercial tourism but reduce the wilderness quality to an extent to more experienced users.
Info for rescue managers	The Landsborough River has little to snag bodies and I think it likely that a body would travel quickly at any flow, from anywhere in the main current. With few gorges, an aerial sweep by helo could be effective. An experienced whitewater spotter would be useful as snag points are not obvious. A kayak team could sweep river level from Toetoe Flat down to the Haast River in one long day (allow 10 - 12 hours). Searching in the river would be very difficult due to the width of the river and likely opacity and discolouration of the water. The river would have no mandatory portages for a g5 capable whitewater SAR team.

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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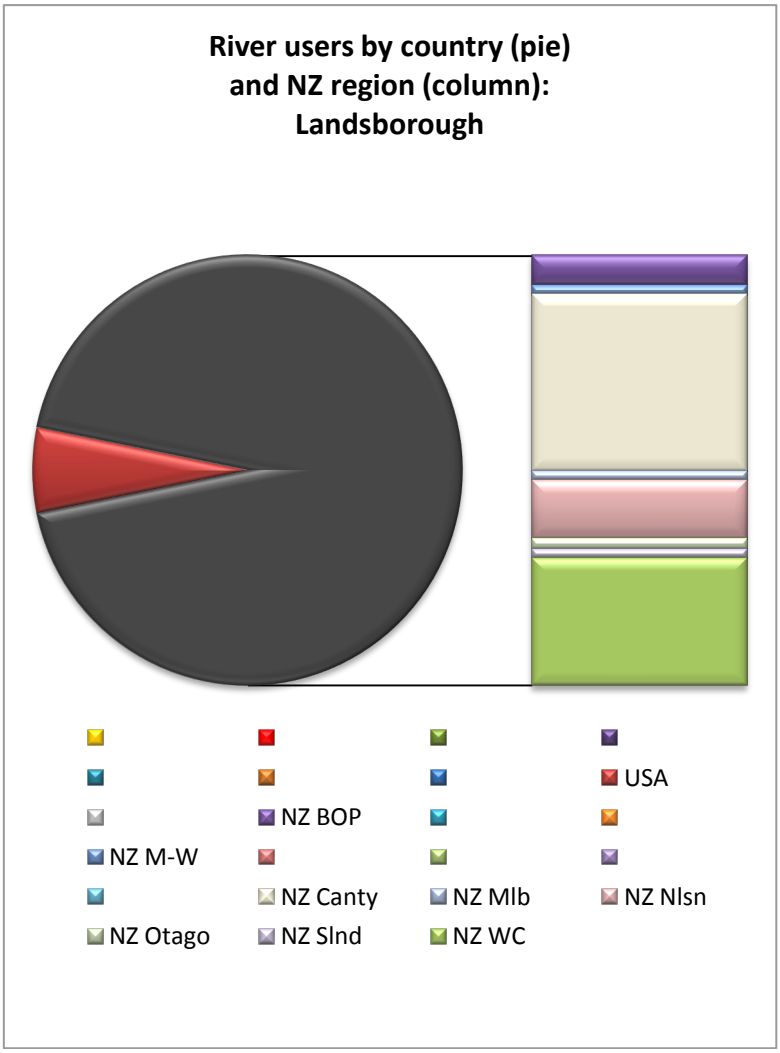
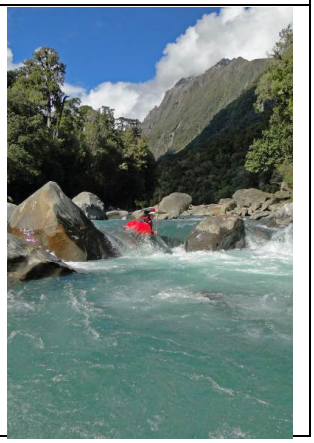


Numbers	
Total number trips recorded	82
Number of respondents for this section	50
Mean number trips per person	1.6

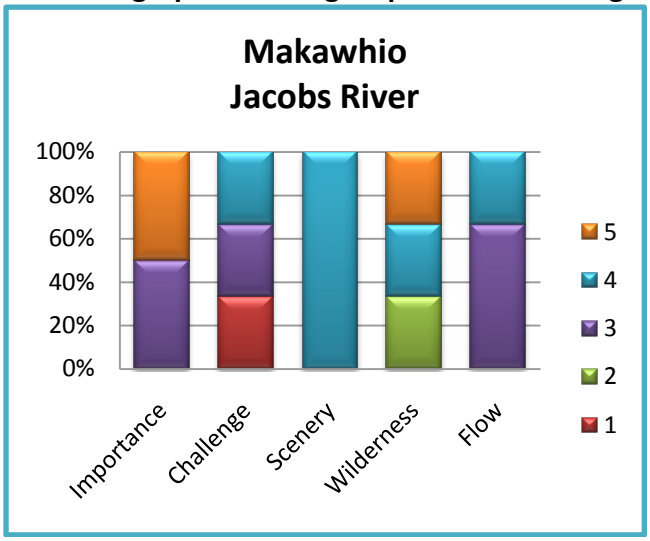
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Makawhio / Jacobs River	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Just downstream of Jumbo Creek confluence at approx: 43° 39.869' 169° 43.901'E 366 602	SH6 road bridge by Jacobs River school, approx: 43° 34.359'S 169° 40.747'E 318 703
Access description	Helo access with James Scott/Alpine Adventures. From paddock on river left upstream of Jacobs River bridge, by consent of farmer.	
Land status (banks)		
Date kayaked (for this report)	9th September 2010	
Group members (on this trip)	Trent Garnham (NZ) Jared Mitchell (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Makawhio starts steeply with good g4 and some g4+ (one portage) before it eases to mostly g3 and eventually to flat in the plains. It is about half whitewater and half flat, although the whitewater takes the longer time (flat water only took about 45 mins kayaking gently). Rapids are mostly large boulders forming tight channels and technical kayaking, even in easier rapids. Flow on this day estimated at about 20cumecs near the start. This was 2 days after rain in spring: would need rain and could have comfortably been a bit higher. Likely to flow reliably in spring.	
Description of water landscape (inc. water quality and clarity, river bed features)	Blue water, hint of green, with good visibility but not completely transparent. Clean and great drinking. Mostly multiple-channel through large boulders with some gentle wider sections. Riverbed geology notable for its colour diversity, with whites in particular noted.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	One of the most scenic river trips I've done, despite no deep gorges, the Makawhio valley is very steep with native forest to exposed cliffs high up sides and views to snowy mountains around.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	For a relatively short flight (about 10 mins) the Makawhio has a very high degree of wilderness feel. There is absolutely no sign of human influence in the upper section, to the farmland on the plains. No track markers, bridges or huts. The rugged scenery adds to the feel. We noted a louder than usual bird sound.	
Notable flora and fauna (eg blue duck)	8 whio seen in upper section: 2 individual, rest in pairs. Notably louder bird sound than other valleys recently visited.	

Description of overall character of river	The Makawhio/Jacobs River is a very high quality day out for entertaining whitewater adventure in a stunning wilderness setting. It is not as demanding as many West Coast kayak trips but contains challenges for any level. It is not a whitewater classic but is a very worthy addition and likely favourite of nature-lovers.
Distinctive features of river trip (key words)	Nature; wilderness; scenery; grade 4
Info for land managers	Wilderness zoning prevents kayak access further up the valley but in this case, that doesn't matter much as the gorge upstream of Jumbo Creek is unpleasant looking with many sieves. Access to land at Jumbo Creek should be ensured.
Info for rescue managers	It is unlikely that anyone would be in the Makawhio/Jacobs River. However, a tramper or hunter in the valley would likely use the rivers ides for movement as the bush appears to be very dense. Search by kayak team on the river would be by far the quickest means to clear the river corridor. Allow 3 hours from Jumbo Creek to the farmland for a quick search; 6 hours at least for a thorough search. Jetboats would be a suitable search method for the flat section through farmland. A kayak team should be grade 5 competent as there are sieves in the main river. There are many potential entrapment points higher up the river. Flow history would be critical as high flows would more likely flush a body through. Given good water clarity and a relatively low flow, a thorough search by experienced kayakers should give a good POD. Good water clarity also means an initial helo search would be useful and better if accompanied by an experienced whitewater searcher.



Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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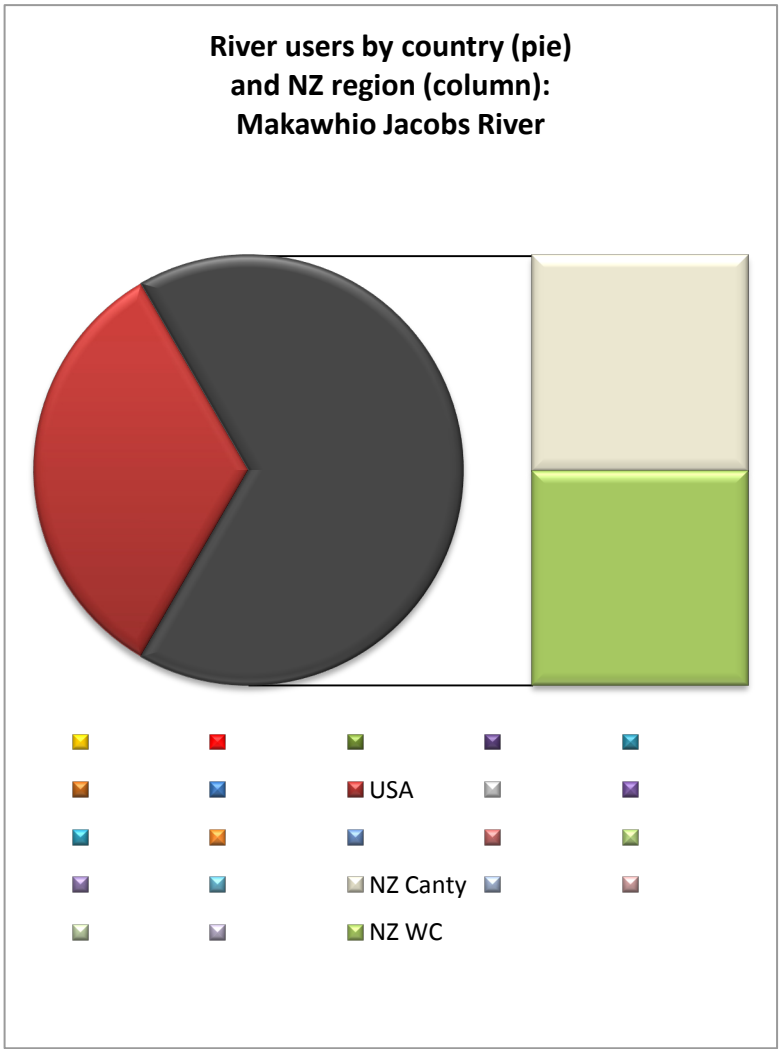


Numbers	
Total number trips recorded	7
Number of respondents for this section	3
Mean number trips per person	2.3

Notes

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Martyr (Monkey Puzzle Gorge)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Upstream of bridge on Jackson River Road, past Martyr Saddle, on river right, approx: 441 047 44° 7.394'S 168° 33.038'E	Where Jackson River Road comes back to Martyr River on river left approx: 427 063 44° 6.503'S 168° 32.120'E
Access description	Easy drive to put-in and take-out.	
Land status (banks)		
Date kayaked (for this report)	15th February 2010	
Group members (on this trip)	Gareth Fryer (NZ) Olaf Koehler (USA) Jason Shepherd aka JJ (USA) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Very low volume river which is hard to grade as most of it is really portaged. Overall, would have to be graded 4 as there are a few waterfalls and slots that could be kayaked. Reliability high at lower flows but would be unsuitable at high flows as portages are mandatory (huge sieves).	
Description of water landscape (inc. water quality and clarity, river bed features)	Transparent green water showing interesting river bed made from surrounding conglomerate rock.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The river immediately leaves the road and passes into a pristine gorge with no sign of human influence. The views are limited to the immediate gorge, which is made up of a winding course through conglomerate rock, and surrounding native bush. The landscape is very different from anything I've seen on other New Zealand rivers.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The long drive south to the river and steepness of the gorge/valley sides, combined with the pristine nature of the river environment, gives a string feeling of wilderness despite the short (2.5km) stretch and road start and finish.	
Notable flora and fauna (eg blue duck)	None seen this trip.	
Description of overall character of river	This is a novelty trip which is about fun exploration in an unusual environment using a combination of kayaking and canyoneering techniques.	
Distinctive features of river trip (key words)	Conglomerate; novelty; short; canyoneering	

Info for land managers	It is unlikely that conflict of any kind will happen here due to the remote location and scarce and peculiar usage.
Info for rescue managers	A rescue call-out in this section is not unfeasible, as it would be easy for a foot or kayak explorer to get stuck in the many sieves. Kayaks are definitely useful for travel in this gorge although they do slow progress in one section by making portage harder. Helicopters would find it hard to search effectively, although a sweep may locate a group, and extremely hard to extract people. A kayak team should be highly experienced despite the novelty nature of the trip, due to the high degree of danger from sieves. Consider an experienced cave rescue or canyoneering team (perhaps from Queenstown) if kayakers are not available.
Any other notes	Kayakers near the put-in, Martyr River

A seal launch after a portage

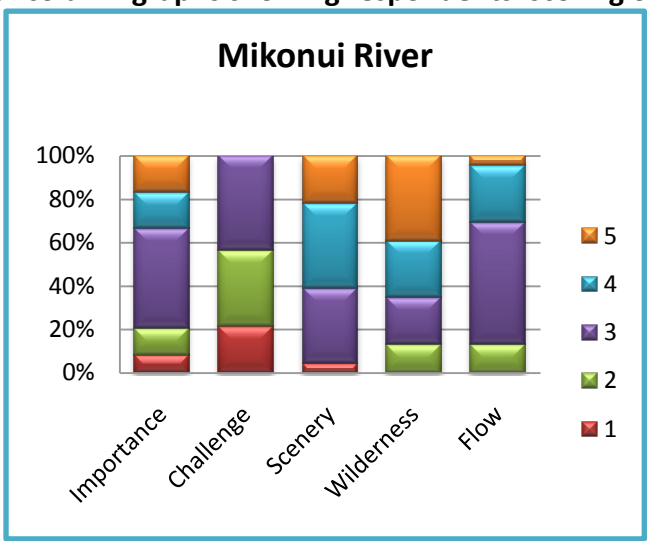
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Mikonui River	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	At Totara Valley road end, walk across river flats to main channel (not as shown on map), approx: 43° 0.099'S 170° 51.303'E 253367	River left at SH6 road bridge: 42° 54.532'S 170° 46.101'E 178468
Access description	2wd mixed sealed and gravel road, long shuttle along Totara Valley Road. This road frequently gets damaged by weather so 4wd may be useful.	
Land status (banks)		
Date kayaked (for this report)	21 Dec 2010	
Group members (on this trip)	Gareth Fryer (NZ) Eddie Murphy (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The flow on this day was very high following a significant rainfall event, so not typical; very approx. 120 cumecs (flowing into paddocks at SH6 roadbridge when we left vehicle but had dropped to bank full by the time we reached take-out). At this flow, the river was a wide, big volume grade 3 trip with large waves, some exploding, and big holes despite gentle gradient. Wide lines made the trip easy but exciting. At lower flows, the Mikonui is known as a gentle grade 2 trip with one grade 3 rapid. It is known as being best after some rain. Given the range of useful flows, the Mikonui can be said to have reliable flows.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water landscape was grey-brown turbid. The river was expansive, spreading wide through braids and filling the river channel in the gorge. No river bed features were visible, although occasional 'rooster tails' indicated larger boulders or trees.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Mikonui valley is very scenic, with large mountains dissected by high waterfalls which unusually (for northern Westland) flow over substantial bedrock cliffs. In the upper part of the river, the valley is wide and the river braided. The gorge does not have vertical walls but steep native forested sides. There are large meanders with slips and cliff features, offering interesting views of the layers passing each other as you travel downstream. Downstream of the gorge, the valley widens significantly and farmland can be seen on the banks. There are still impressive natural views back to the mountains.	

Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	With a long gravel drive in, high mountains, waterfalls and a pristine environment with no sign of people, the Mikonui has a higher wilderness feel. This is reduced somewhat by the drive in and farmland after the gorge, but it still feels like wilderness and is particularly of note due to the low grade of the trip. There are few, if any, other grade 2 trips with such a high degree of wilderness feel on the West Coast.
Notable flora and fauna (eg blue duck)	None seen on this trip.
Description of overall character of river	At 16km, the Mikonui is an outstanding example of a grade 2 day trip through dramatic scenery in a pristine environment. With no tight gorges and a reasonably constant gentle gradient, kayakers or canoeists will have interesting easier experiences at most flows (depending on their ability). This rivers should be a 'must do' for international students and could be exploited much more for eco-tourist use.
Distinctive features of river trip (key words)	Scenery; mountains; waterfalls; pristine; grade 2; gentle
Info for land managers	Access to the put in is key: the track is currently set up for trampers going upstream with no consideration for river users. This could easily be changed. As mentioned, I think that the Mikonui is an excellent eco-tourism resource for the central West Coast. A little work to facilitate this would be very useful. Further work could include track access to view features on the way downstream, such as a viewing platform part way up Red Granite Creek.
Info for rescue managers	There is some likelihood of needing to conduct a river search on the Mikonui due to tramping and hunting upstream. Red Granite Creek may well lead to kayaker injuries (see note below) but most kayak teams of the standard to kayak this river will self rescue. Due to no overhanging gorges, a helo search on the Minonui would be useful: a whitewater spotter would help as there is a lot of water to cover and relatively few snag points to watch for. It is possible that a jetboat team could assist the kayak team by covering downstream of the gorge. At high flows, an experienced whitewater kayak team could cover the Mikonui section in under 3 hours BUT are unlikely to have a POD over 30% unless person searched for is alive on banks: area to cover and lack of visibility in water would greatly reduce ability to search effectively. At low flows (the Mikonui drops quite quickly) POD should increase significantly but will still be reduced by the area of water to cover. Allow 4-8 hours depending on thoroughness of search required.

Red Granite Creek (pic left), a tributary on true left, is now kayaked reasonably frequently at high flows. It is characterised by large waterfalls and has a very steep, exhausting, walk in. The upper part of the Mikonui and parts of the Tuke have also been kayaked.

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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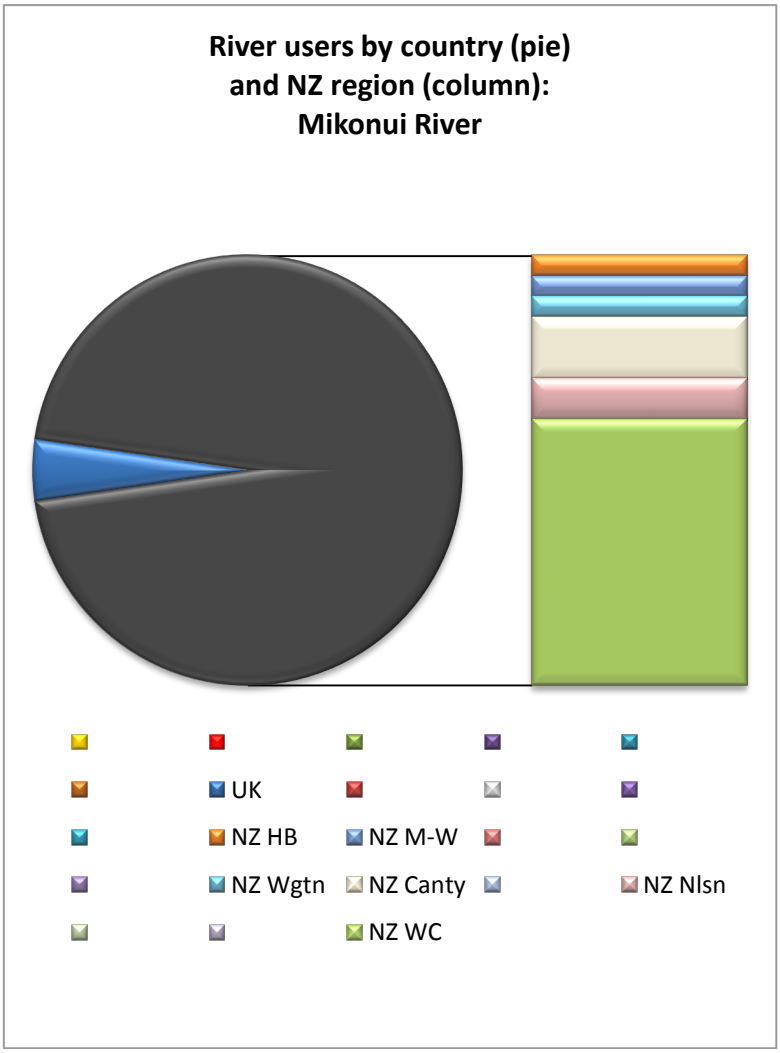
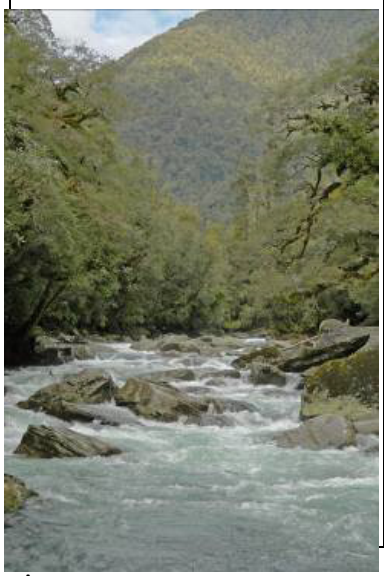


Numbers	
Total number trips recorded	43
Number of respondents for this section	23
Mean number trips per person	1.9

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Moeraki (Blue) River	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Variable depending on how far one wants to walk. This trip, approx: 43° 48.014'S 169° 21.199'E 066 437	We took out at a creek on river right close to SH6. 43° 45.912'S 169° 19.685'E 044 476
Access description	Walking from DoC car park off SH6 at 065 469. We walked about 4km in about 1h20min. Reports are that it is possible to walk a further unspecified distance to get more whitewater. Take-out where creek on river right makes access to SH6 easy. Walk back to car park along SH6.	
Land status (banks)		
Date kayaked (for this report)	8th September 2010	
Group members (on this trip)	Trent Garnham (NZ) Jared Mitchell (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Grade 4 and 5 medium-low volume technical and quite continuous kayaking through boulder rapids avoiding serious hazards such as sieves and strainers. A busy feel with little let-up to action until gradient eases at valley bottom. Needs rain: we kayaked at approx. 25 cumecs and it was good, but could have handled some more (maybe 30 cumecs) but would be scary with lots more water. Reliability weather dependent.	
Description of water landscape (inc. water quality and clarity, river bed features)	Blue-green water with typical South Westland clarity. Generally boulder rapids or varying gradient without bedrock gorges.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Views from river primarily whitewater and native vegetation, pristine apart from around swingbridge where old bridge parts left in river bed. Nearer end of trip, valley opens out to give wider scale impressive views back to mountain tops. Very scenic despite lack of large scale gorges or similar features.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	South Westland always gives a higher degree of wilderness feel, in aprt due to a long drive to get there from any towns. Walk in increases that feel although presence of track reduces it somewhat and in particular the swingbridge and remains of previous one in river bed.	
Notable flora and fauna (eg blue duck)	None seen on this trip.	
Description of overall	This was a pleasant surprise – a lot of good quality whitewater in	

character of river	a very pretty setting for a reasonable walk. The river is only suitable for advanced kayakers due to serious consequences of mistakes (sieves, strainers) and fairly continuous whitewater. A great half day trip which is a must-do for kayakers in the area when there is enough water.
Distinctive features of river trip (key words)	Walk in; continuous whitewater; scenic; grade 4+
Info for land managers	There is nothing that land managers need to do for this river, other than maintain the status quo.
Info for rescue managers	It is possible that a hunter or tramper could end up in this river, although the swingbridge makes it unlikely. Similarly, most kayakers accessing this river will be well prepared. There are many possible entrapment points throughout the river resulting in a likely low POD. River banks and boulders are extremely slippery and unsuitable for land based teams. An assessment of recent flow history would be essential before planning a search (in high flows it is likely that a body would travel significantly further). A search team should be well equipped and experienced. It would be preferable for them to access the river by helo, possibly dropping at Horsehoe Flat Hut, to reduce fatigue. Allow 4 hours for a quick search and a full day for a detailed search.
Any other notes	



River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Mokihinui River	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	We put in at Johnson Hut on the Johnson River, approx: 41° 28.062'S 172° 18.672'E 397090 North branch put in approx: 406080 Forks put in approx: 315005	Track to Rough and Tumble Lodge, not marked on topo map but is on Google Earth, river left at approx: 41° 33.280'S 172° 0.952'E 179992
Access description	Helo access using Helicharter Karamea (Wayne Pratt). Small groups as us direct from Karamea aerodrome; larger groups from take-out. Shuttle to take-out required.	
Land status (banks)		
Date kayaked (for this report)	7th January 2011	
Group members (on this trip)	Dave Ritchie (NZ) Brendon Robertson (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	This trip has 3 distinct sections: Johnson River, Mokihinui North Branch and Mokihinui from the Forks. The Johnson River is steep, medium-low volume (15 cumecs on this trip?) grade 4+ with some grade 5. Mostly boat scoutable continuous boulder-formed rapids with some powerful holes. There are shallow gorge walls in places but all portageable if required. The North Branch is bigger volume, very approx. 25 cumecs on this trip, fairly steep classic grade 4 technical kayaking with long rapids requiring planning and execution of moves. Most rapids can be scouted from in boat but only just. This was one of my favourite sections I've kayaked full stop and a very pleasant surprise. From the Forks, the Mokihinui is a bigger volume river with wide lines, large waves and hydraulic features and many large holes. There are many very high quality rapids, with a good flow, including a grade 4+/5 rapid. Mostly though this section is grade 3-4 and very accessible to a range of kayakers and rafters. Additional water is a strong advantage for all sections so reliability is not high, although I am told that the sections are kayakable at lower flows and higher.	
Description of water landscape (inc. water quality and clarity, river	Johnson: brown and clear with good visibility, drinkable and clean. Granite bedrock and boulder river bed features. North Branch slightly more turbid golden brown water but still	

bed features)	quite clear. Granite boulders with some bedrock. Stands of dead trees in river from earthquakes. Mokihinui from Forks brown and cloudy/opaque with silt. This was after slips caused by flooding, however. Large boulders, bedrock ledges and constrictions, river bed obscured. Notably warm water, to the point that we sought cold water to drink from the numerous blue/clear tributaries.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Notable diversity of valley landscape. Johnson narrow and V shaped with dense bushy sides, no deep gorges. Then opens out into a very expansive area surrounded by mountains with large cliff faces and rocky peaks, all pristine and bush/toe toe/grassy flats. It is hard to tell which way the river is going. Entering the Mokihinui proper from the Forks, the valley narrows to a steep V-sided valley with low scoured bedrock gorge walls. The valley stays narrow and bush clad.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Flying in to Johnson, there is a very high degree of wilderness feel. Distance/remoteness feels like the Karamea, but after the initial hut there are no signs of people until near the end of the Forks down section, close to Rough and Tumble (old mine/logging debris). Vegetation seems pristine and the expansive valley section in the middle offers a feeling of disorientation that adds to the impression of being in a special wilderness.
Notable flora and fauna (eg blue duck)	None noted
Description of overall character of river	The Mokihinui from the Johnson River is a fantastic river journey of 35km, with a more pronounced character change than I can think of on any other whitewater river trip that I know of. Being mostly grade 4 the trip is an option for a range of (upper) kayaker skill levels; there is little grade 5 and all can be portaged making true wilderness travel very accessible. Whitewater is of top quality and there is lots of it. Camping would enrich the experience. Pristine golden-brown water and constant interest make this an awesome experience, particularly with good weather and a little extra water.
Distinctive features of river trip (key words)	Wilderness; pristine; overnight; grade 4; read and run; journey
Info for land managers	The big question is obvious: will the Mokihinui be dammed? My experience on this trip, the first time I had paddled the Mokihinui, was one of the biggest surprises of my year in that the trip was one of the best I'd done, ever. All kayakers really need is to keep things as they are.
Info for rescue managers	A popular area for hunting, tramping and angling, it is likely that a search will happen in this river corridor. Kayak teams would be best for a detailed search and could enable clearing a corridor quite quickly: we took 5 ½ hours kayaking time from Johnson hut

	to the takeout (35km). A helo search would be effective as there are few tight gorges or areas of overhanging vegetation. An experienced whitewater spotter would be very useful as snag points may not be obvious and there are many. Johnson is clearer and narrower so easier to search; expect a high POD here. The North Branch becomes wider with lots of whitewater that would be very hard to search effectively, for a body. The Mokihinui from the Forks down would be even harder. Expect a low POD. From the Rough and Tumble rapid downstream, jet boats would be more effective Length of trip is an issue. Ensure WWSAR teams are experienced, have overnight gear and time.
Any other notes	Johnson put-in  Johnson 

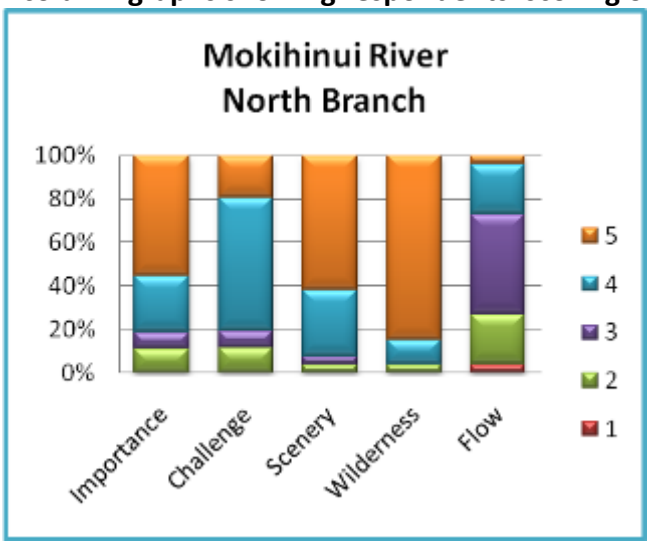
North Branch

Wide valley before the Forks

The main Mokihinui

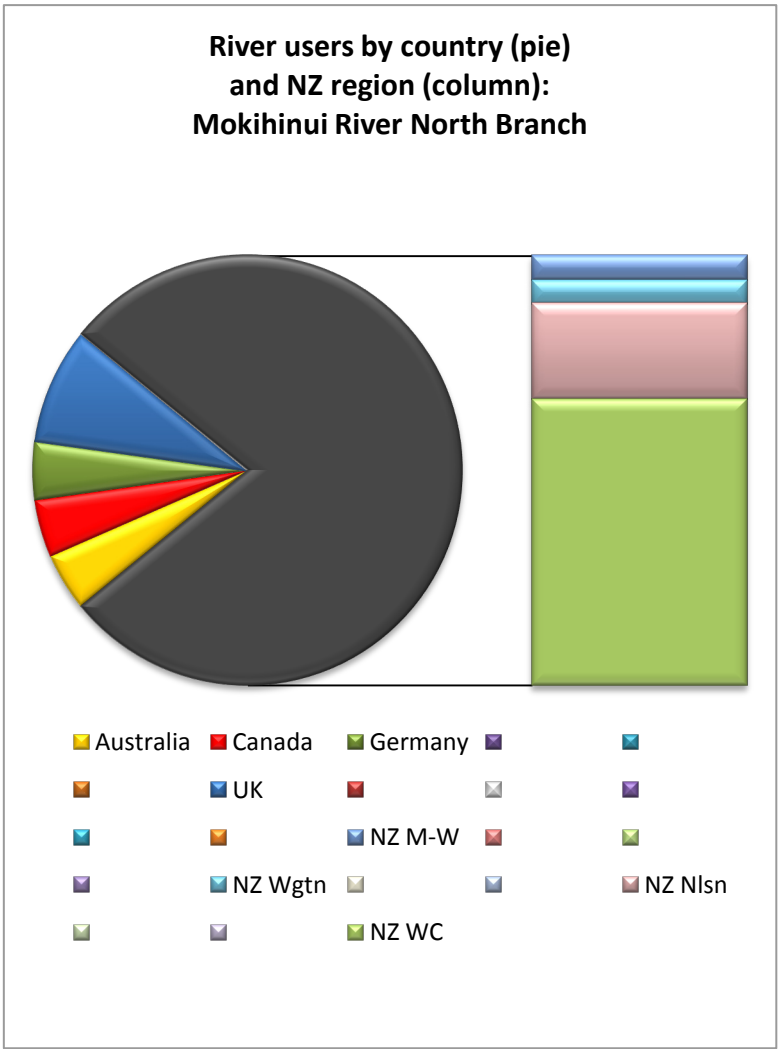
Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

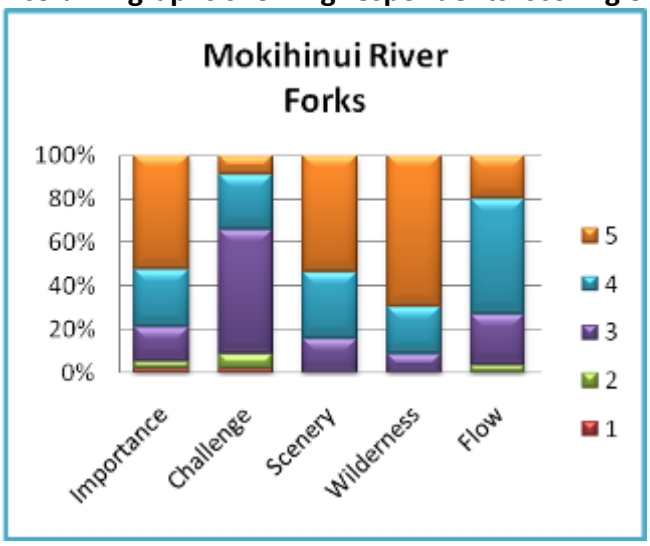
The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	68
Number of respondents for this section	26
Mean number trips per person	2.6

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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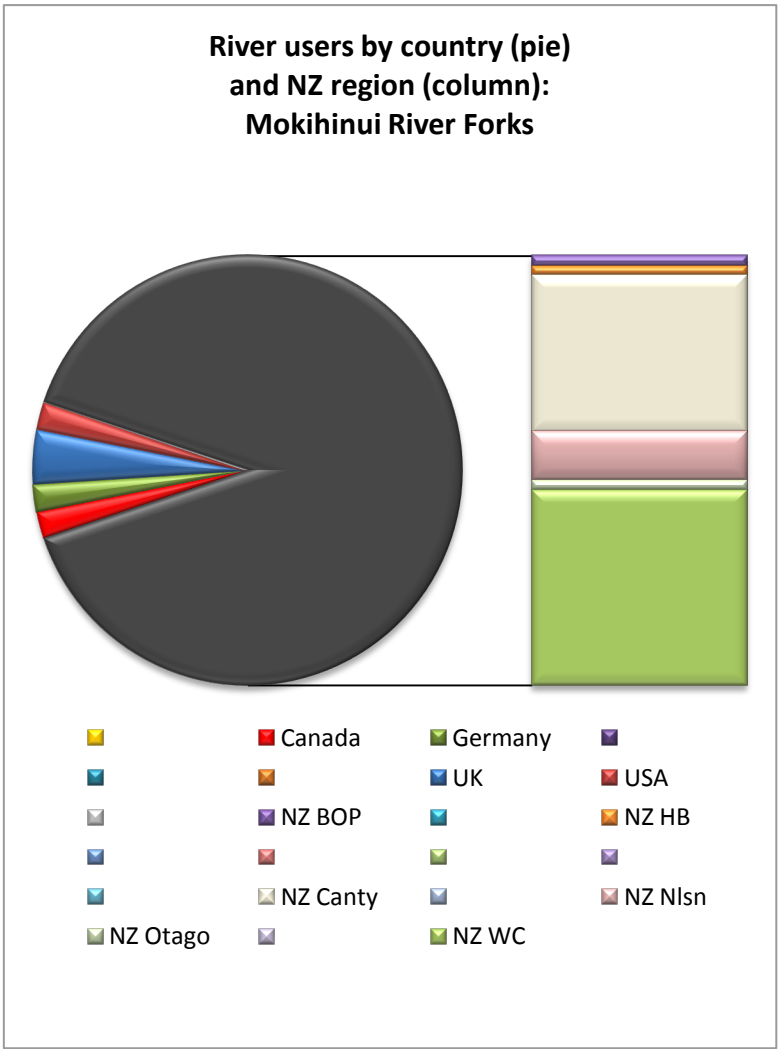


Numbers	
Total number trips recorded	122
Number of respondents for this section	55
Mean number trips per person	2.2

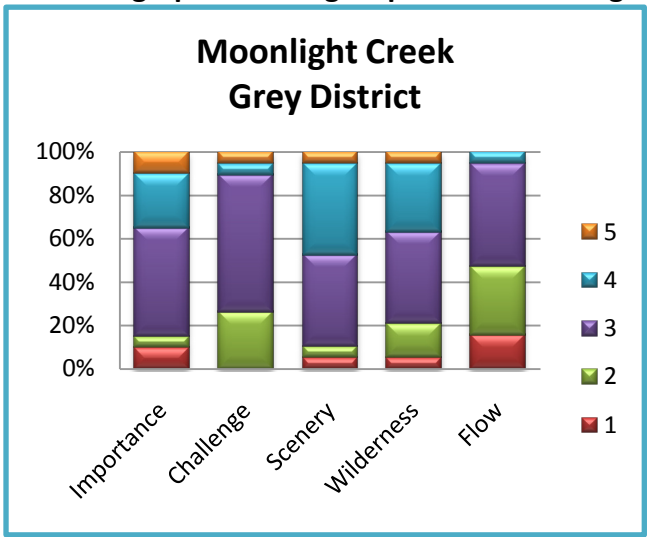
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Moonlight Creek (normal section from track to bailey bridge)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	5min walk down Moonlight Track at start of Andersons Flat where river become visible through bush, river right, approx: 42° 16.329'S 171° 27.633'E 731 188	At Bailey Bridge on access road (possible to extend to road bridge at Atarau but rarely done) approx: 42° 17.720'S 171° 27.861'E 734 136
Access description	2 wheel drive unsealed road access then easy 5 minute walk to river. 2wd access to bailey bridge at take-out. Sometimes groups walk back to put-in from take-out.	
Land status (banks)		
Date kayaked (for this report)	19th June 2010	
Group members (on this trip)	Phil Johnson (NZ) Kevin England (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Only kayaked at high flows after rain, Moonlight has g.3 whitewater from start to near the finish where it becomes g.2. Moonlight is characterised by continuous rapids of waves, holes and surging eddies, with occasional strainers giving some serious consequences for a g.3 trip. It has a lot of whitewater features for a short (3.8km) river section. On this trip, the river was high. It is hard to estimate flow, due to the discoloured water, but approx. 40 cumecs is likely. Flow needs to be high to kayak Moonlight, although this was higher than I have run it before and 30 cumecs would be sufficient in my opinion, although this makes the rapids rockier and hydraulic features less powerful resulting in less fun. Moonlight is only a rain-fed run meaning it flows unreliably, although it is relatively easy to predict when it will have enough water (for 4-8 hours after very heavy rain).	
Description of water landscape (inc. water quality and clarity, river bed features)	The water is typically brown and opaque due to the flood-run nature of the trip. It is clean and unpolluted, however. The water landscape on a typical trip is a blurred mixture of brown and white water. The river bed is rarely seen.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Moonlight is set in beautiful native forest and passes through a shallow mossy gorge. Towards the end of the gorge it widens with tall cliffs of mudstone on alternating banks.	
Description of degree of	Moonlight is very pretty and feels largely natural, but has quite a	

wilderness feel (inc. presence or absence of human influence, remoteness)	low wilderness feel due to the drive-in access and occasional presence of human influence (eg old logging bridge). It is, however, usually a step up in wilderness feel for intermediate ability users.
Notable flora and fauna (eg blue duck)	None noted on this trip.
Description of overall character of river	Moonlight is a very high quality medium/low difficulty - but high interest - river trip set in a very pretty gorge which is easily accessible. This makes it a rare trip and it has become popular, mainly with local kayakers, after heavy rain.
Distinctive features of river trip (key words)	Flood run; continuous; grade 3; strainers; short walk; gorge
Info for land managers	It is vital for kayakers that the bailey bridge at 734136 is maintained for vehicular access, as without the bridge the length of walk to the Moonlight River put-in would be very off putting, particularly as this trip appeals to less experienced kayakers who are less likely to have carrying equipment.
Info for rescue managers	It is quite possible that a rescue/recovery will be required in the Moonlight River, as occasionally less skilled river users do access the river and strainers are commonplace. A helo sweep could be useful, although I would recommend using an experienced whitewater spotter as strainer entrapments may not be readily evident. A kayak team should be confident on g4 whitewater and capable of roped recovery work. They should carry saws, pulleys and plenty of rope. They may need chainsaw assistance. Allow 30min – 1hour for a 'sweep', longer for a detailed search. It is unlikely that a body would snag other than on a strainer at high flows. Searching would be hindered at high flows by the continuous and fast-flowing nature of the river and discolouration of the water. Low flows happen very soon after high flows, so unless a life could be saved it may be worth waiting for lower flows (4-8 hours after rain).
Any other notes	A kayaker at the put-in on Moonlight 

	A river-wide strainer (log) across Moonlight 

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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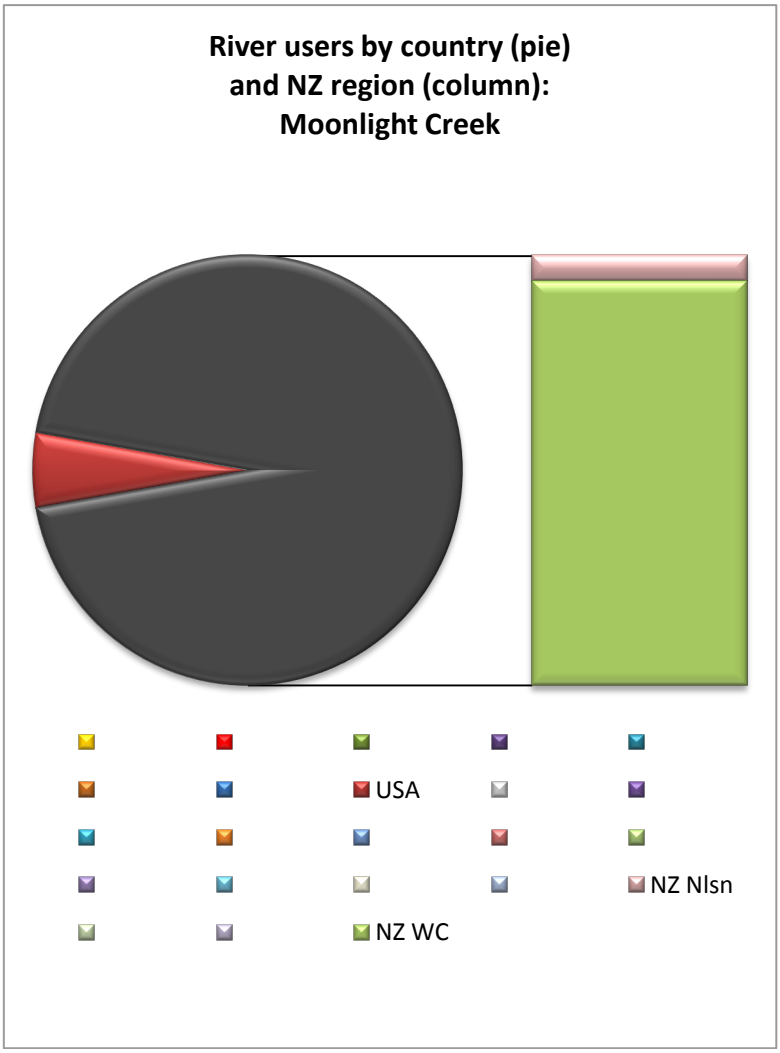


Numbers	
Total number trips recorded	47
Number of respondents for this section	19
Mean number trips per person	2.5

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Perth (Scone down inc. Five Finger Stream)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Scone Hut river flats (opp. Hut on river right): 030947 43° 22' 29.2" S 170° 34' 04.2" E Five Finger Stream: 009958 43° 20' 47.4" S 170° 31' 00.9" E	As helo pick-up at car park by old broken bridge at 903033 43° 17' 36" S 170° 24' 44.8" E
Access description	Helicopter access, usually with James Scott/Alpine Adventures, from car park upstream of SH6 road bridge.	
Land status (banks)		
Date kayaked (for this report)	07 02 2010	
Group members (on this trip)	There were 21 kayakers on the Perth on this day from NZ, Europe, Canada and USA: 3 to Five Finger Gully 11 to Scone Hut 7 to "Upper"	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Scone: classic steep river kayaking between large boulders. Lots of 'read and run' g4 with steeper sections of g5. Most rapids medium to long, multi-move. Eddies frequent but not many flat areas. Flow was very low (20m^3/s?) on this trip, following a long period of dry weather in late summer. Low flow makes river slightly easier, with slower speeds and rapids more clearly separated. It does not lower quality of run. Medium and higher flows offer excellent quality, slightly more challenging kayaking. This gives the Perth a wide flow range. Very high flows are unknown to me but would most likely create a fast and scary experience with lots of powerful hydraulics. Five Finger: classic g3 and g4 kayaking leading into a gorge with optional harder g4+rapids. Similar flow regime to upper, although lower gradient tolerates higher flows to an extent.	
Description of water landscape (inc. water quality and clarity, river bed features)	Scone: characterised by bright blue glacial water, so a bit milky. Clean. Chutes separated by big boulders. Horizon line after horizon line. Fine Finger: boulder rapids and some shingle rapids lead into a gorge. Again, bright blue, clean water.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Scone: few gorges and shallow where present, so valley mostly visible. Large scale views of mountains with glaciers and native vegetation. Five Finger: similar valley landscape with wide views to gorge.	

	Gorge stunning with high sides and bright, scoured walls. Wider than many West Coast gorges.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Scone: no sign of human interference; trails and huts not visible although present; no sign of helo landing pads; scenery dramatic and large scale; flight medium length so wilderness feel very high. Would take over a day to walk out. Five Finger: as for Scone, although shorter flight reduces feel of remoteness.
Notable flora and fauna (eg blue duck)	On this trip, rata flowers were exceptionally bright giving the valley a red hue partly visible in photos.
Description of overall character of river	The Perth is a West Coast classic which is renowned the world over. It is defined by steep, continuous, 'read and run' 'seat of your pants' type whitewater in the Scone and Upper sections with many classic rapids one after another and very few flat sections (although flat paddle out at end). It is a big day out with a high density of top quality g4 and g5 kayaking. The valley and mountain scenery is notable and the gorge in the Five Finger section is stunning. Although it does feel like a wilderness trip, the focus is very much on the river/kayaking as there is so much happening. The Perth attracts international kayakers and has been on the 'must do' list since 1995, although kayakers have explored higher and higher. Because the Perth has sections with of different degrees of challenge, it is popular with groups of mixed advanced intermediate –advanced who can choose appropriate sections. The Perth from Five Finger is popular with commercial rafting groups including a trip that comes over Dennistoun Pass on foot from east of the Alps. It is seen as a 'grade 5' rafting trip, with the attractions being challenging whitewater and great scenery.
Distinctive features of river trip (key words)	Continuous; read and run; blue water; classic grade 4 and grade 5 whitewater; rafting
Info for land managers	Helicopter access is essential for kayaking and rafting the Perth. Otherwise, kayakers have little need for anything. It is notable that the trail is not apparent from the river and this adds to the sense of wilderness.
Info for rescue managers	Kayakers who get into trouble on the Perth are unlikely to be rescued successfully by a SAR team: it is busy kayaking and their own team needs to effect their rescue. It is more likely that a kayaker who has lost his boat 'goes bush' without finding the trail and needs to be found. Trampers etc could feasibly be washed into the Perth from side creeks. The Perth in any section has many boulder entrapment possibilities but few trees and few flat sections for bodies to slow down. If the river is high at the time a body enters, I think it would travel quickly (or entrap immediately).

	The open nature of the Perth means a helo search would be useful. A kayak spotter would be very useful as there are so many entrapment spots that are not obvious to people unfamiliar with whitewater. A good kayak SAR team could search the banks of the Perth for a live person at low-medium flows in 3-6 hours from Five Finger; 6-10 hours from Scone; 8-12 hours from the Upper. Portaging would be necessary for a safe operation. A kayak SAR team would be unlikely to need support once on the river unless target located. Jet boats would be suitable up to the Perth-Whataroa confluence. Many parts of the Perth could not be searched for a dead person with a high POD due to the inaccessibility and poor visibility of the rapids. However, given data on flows and likely entry points, a good kayak SAR team should be able to search sections effectively and safely.

Typical photos

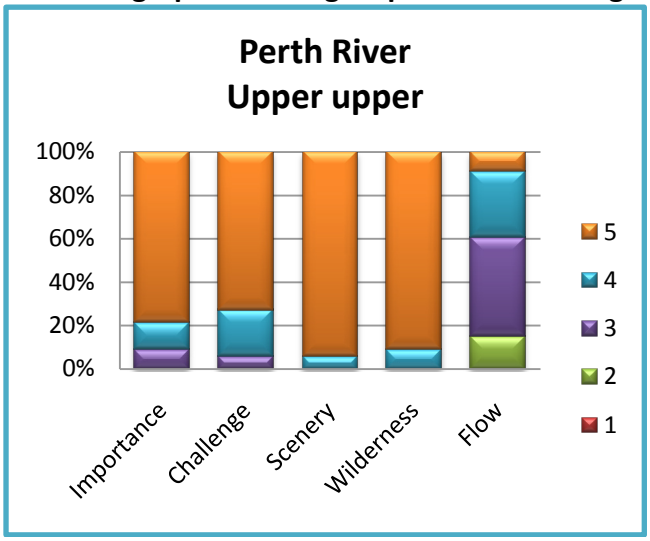
Typical 'upper' rapid

Group fun kayaking waterfa

Scenic 'lower' gorge

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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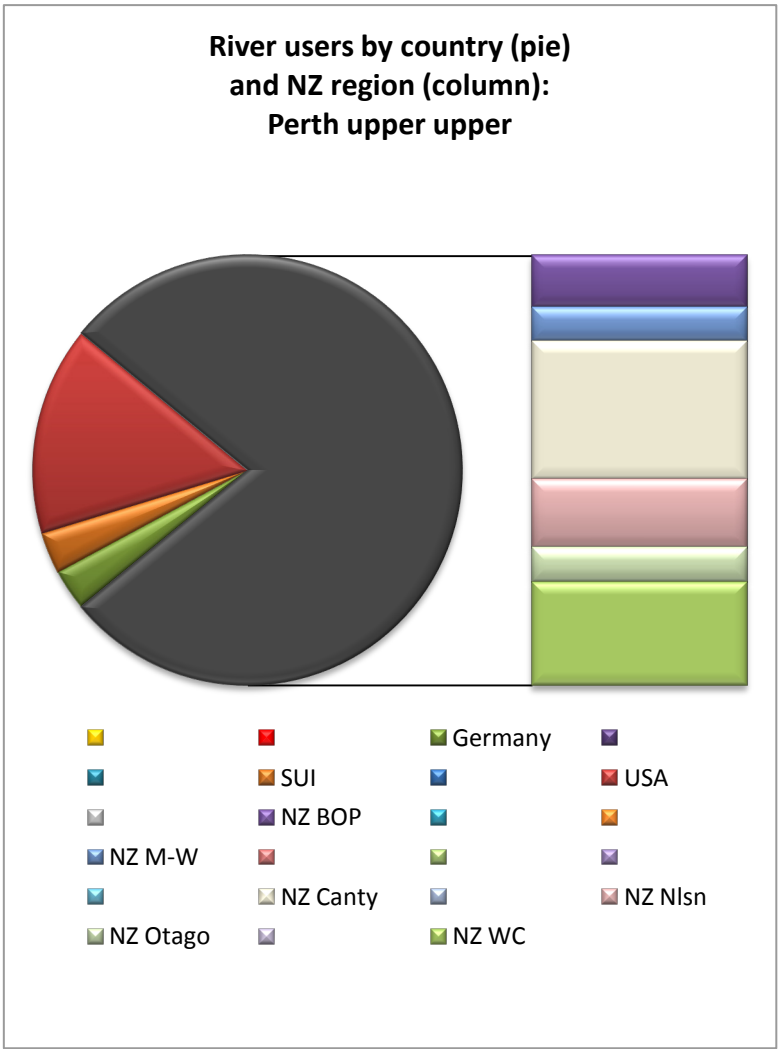
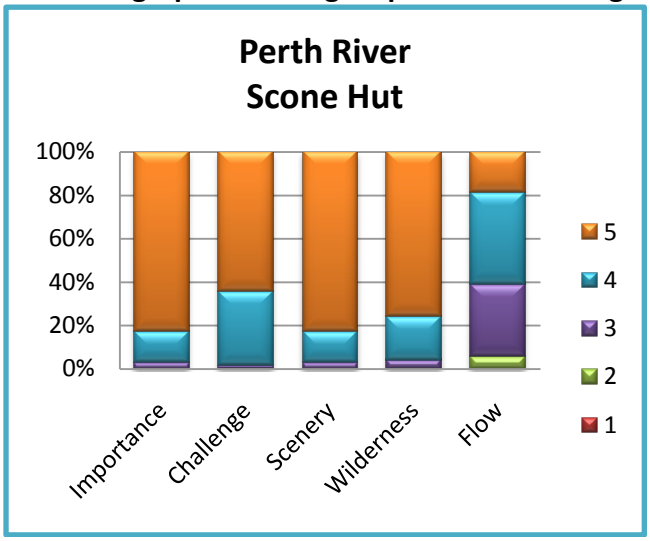
The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	51
Number of respondents for this section	33
Mean number trips per person	1.5

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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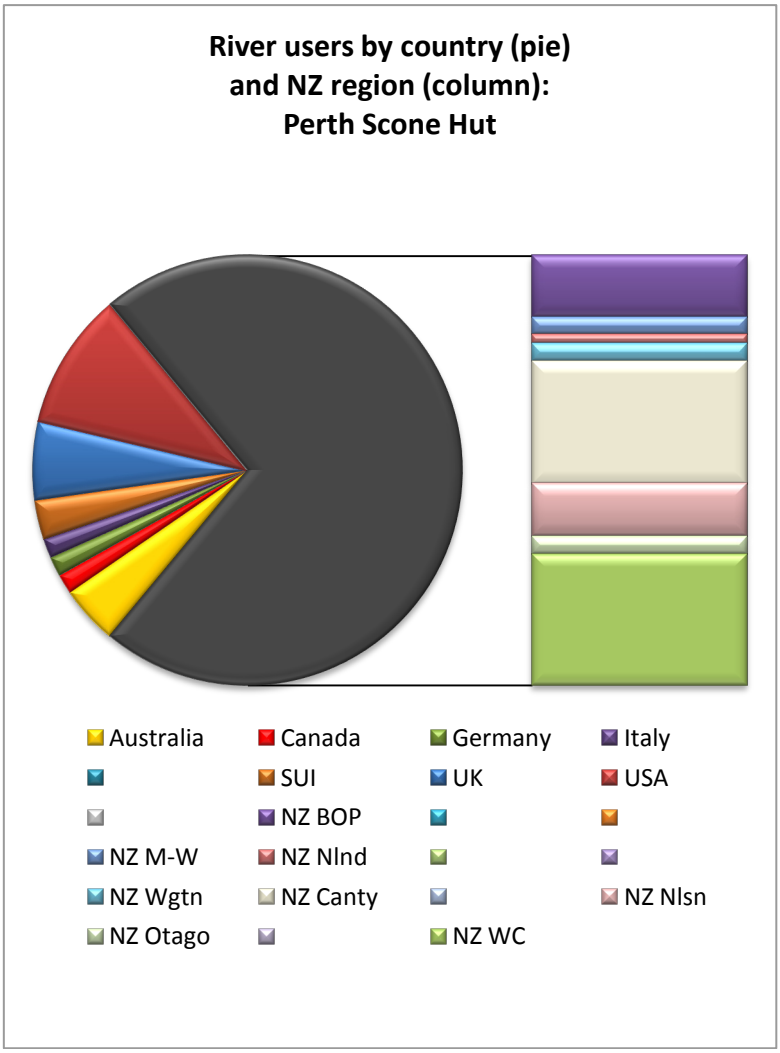
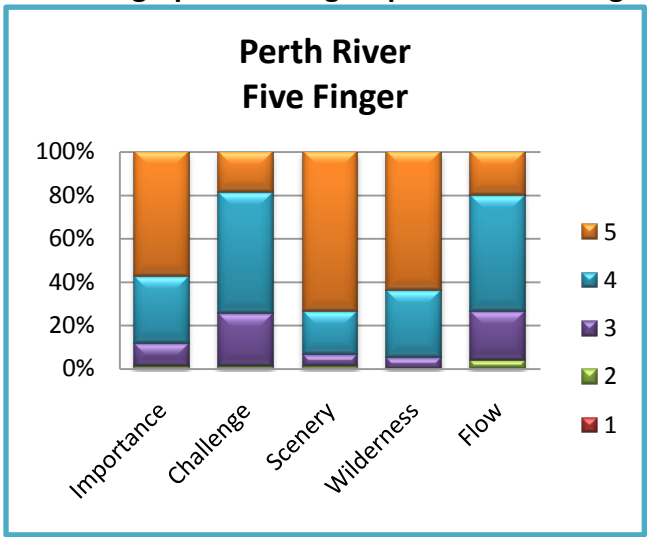


Numbers	
Total number trips recorded	257
Number of respondents for this section	70
Mean number trips per person	3.7

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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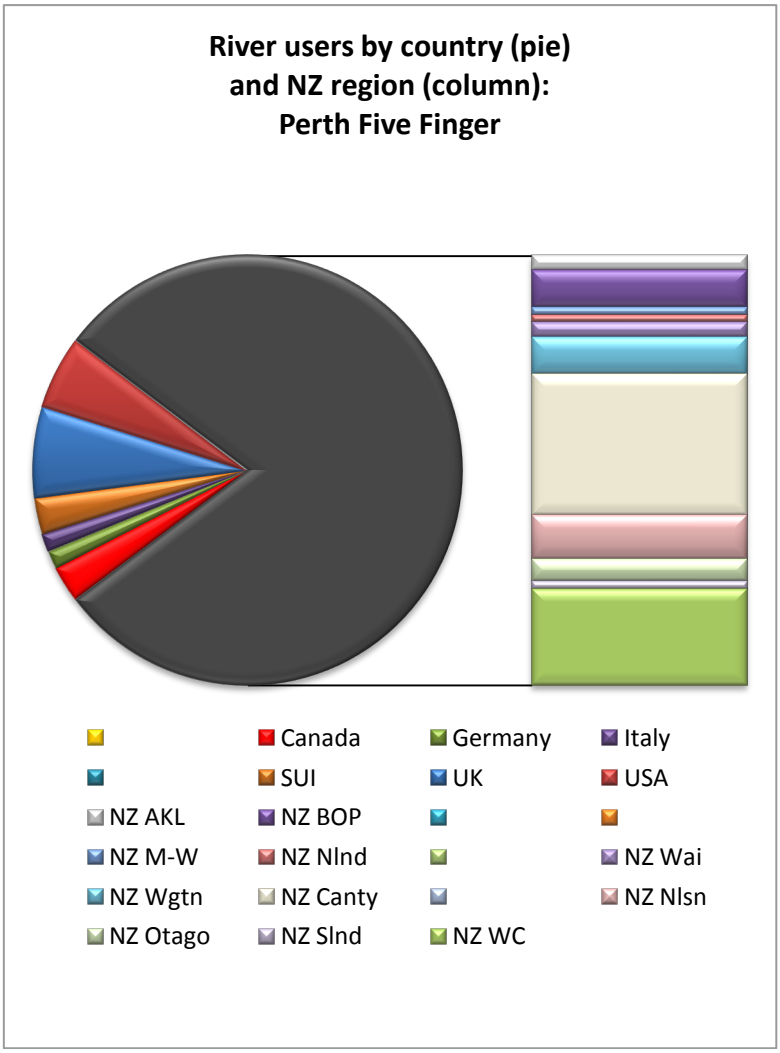
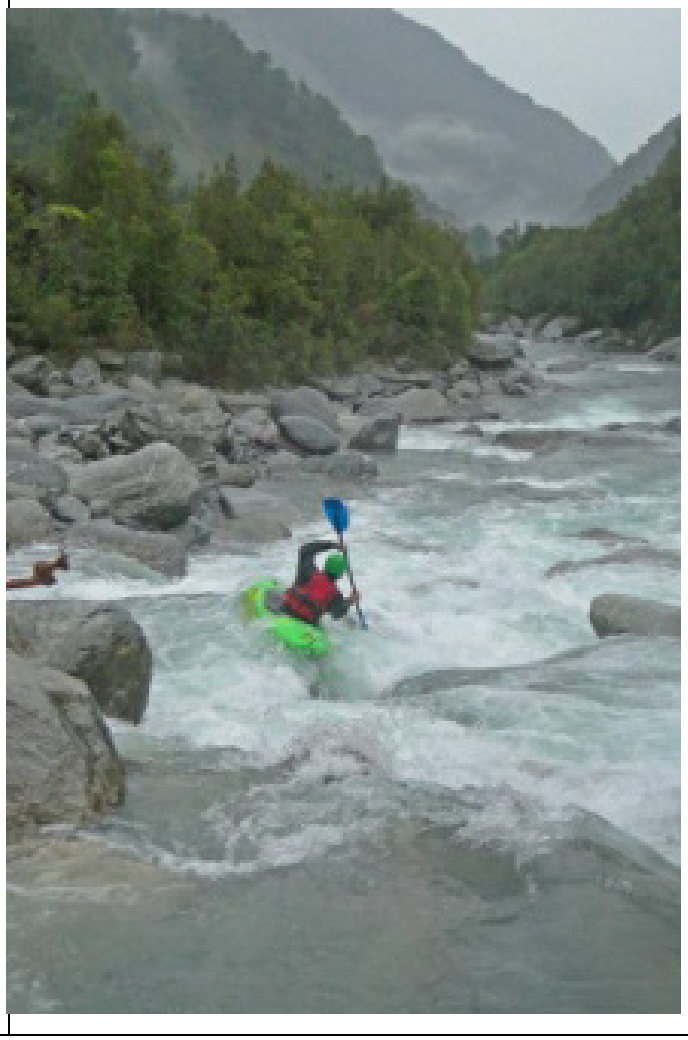


Numbers	
Total number trips recorded	255
Number of respondents for this section	73
Mean number trips per person	3.5

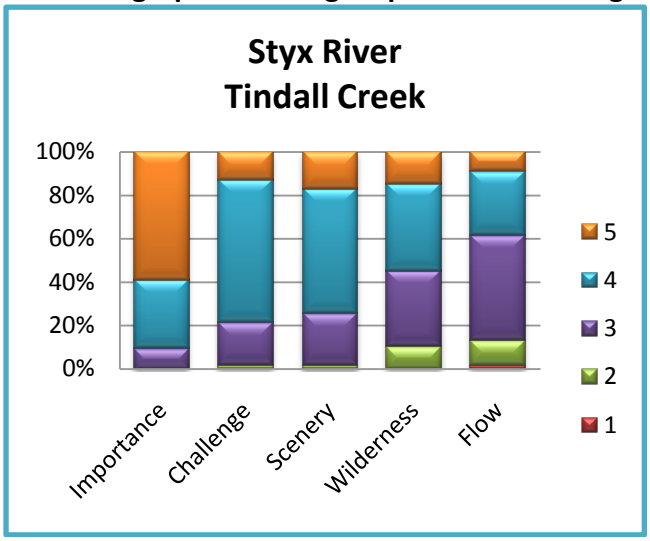
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Styx ('normal' walk in to Tyndall Creek)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	On river right opposite Tyndall Creek approx.: 42° 53.377'S 171° 13.366'E 548 498 Alternatively where track dips down to river at: 547 498 Or, for easier trip, where track close to river at: 544 496	Where Styx river meets track at approx.: 42° 53.225'S 171° 10.865'E 505 501 Alternatively at Upper Kokatahi Road bridge: 493 505
Access description	Through farm land on 4WD track then medium walk on well maintained DoC track (4km, about 1 hour if fit).	
Land status (banks)		
Date kayaked (for this report)	24th April 2010	
Group members (on this trip)	Eddie Murphy (NZ) Gareth Fryer (NZ) Barney Young (NZ) Jared Mitchell (NZ) Matt Shearer (NZ) Kevin England (NZ) "Skux" (NZ) There was also a group of "Buggers" from a club in Christchurch led by Graham Boddy.	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic 'read and run' technical g4/4+ whitewater in the first 1.5km. Classic g3 whitewater from there down. Tight lines, fairly steep gradient, short drops which are often close together to form longer sequences. Easing into lower gradient wider g3 and g2 rapids with multiple lines. Flow on this trip lower end of medium, very approximately 25 cumecs. Flows well at higher flows although gets much bigger features and they appear much more quickly, making it a harder trip at higher flows. Also works at low flows although it is significantly better (less hitting of rocks, bigger hydraulic features, 'tidier' lines) at increased flows due to rain or spring time high groundwater flow. This broad useable range gives the Styx great reliability.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water was green and slightly opaque. At higher flows, it is often brown and fully opaque, although in some spring high flows and all low flows, the water is blue-green and transparent. Water is clean and drinkable. The river bed is rocky and navigation between boulders of various	

	sizes is what makes this trip.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Styx valley is steep and covered in native bush. The immediate river valley sides are bouldery with some short bedrock sections. There are no wide scale vistas from the Styx river and no significant gorges.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Due to the walk in and presence of the track alongside the river, the Styx has a relatively low (for the West Coast) wilderness feel. However, it is mostly away from any sign of human influence and the river itself is pristine, meaning wilderness feel is not unnoticeable.
Notable flora and fauna (eg blue duck)	Frequent whio sightings, although none this trip.
Description of overall character of river	The Styx River is steep, technical, varied and similar to the helo access trips in the region. It is also reliable, easy and cheap to access and a pleasant walk for a fit person. By choosing a higher (harder) or lower (easier) put-in, kayakers can manage the degree of technical challenge they face. This makes it one of the Hokitika area's most commonly kayaked and most appreciated rivers. The similarity to the helicopter access trips makes the Styx a vital stepping stone, training and testing ground for local and visiting kayakers.
Distinctive features of river trip (key words)	Steep; technical; varied; boofs; training; whio; walk-in; reliable
Info for land managers	The Styx plays a critical role in the West Coast kayaking scene. Access under the current arrangement is fine and kayakers require nothing more than maintenance of the status quo.
Info for rescue managers	The Styx has a popular walking track, albeit with no main river crossing so unless a tramper tries crossing a side creek in flood it is unlikely one would end up in the main river. As a popular destination and training ground for kayakers, accidents on the Styx are likely although in most cases the kayaking group will deal with the situation themselves. If a rescue is required, a helo search would be possible as there are no deep gorges, although it would be advisable to have an experienced whitewater spotter. At high flows, it is likely that a body would travel quickly and violently and a rescue team is unlikely to be successful due to technical challenge and discoloured water. The Styx drops quickly after rain (4-10 hours). A 'pinning' entrapment is most likely for a kayaker, in which case it is possible that a boat/person could stay entrapped for a long period of time. A kayak team could walk in or be dropped by helo, in which case it would be worth using a smaller machine than a Squirrel as otherwise it is likely to mean putting in at Grassy Flats which adds 2 hours at least to the kayakers' time. A kayak team should be g5 capable and familiar with the river. In lower flows and transparent water, a high POD is likely. Allow 1 hour for walk in. 1 hour for quick sweep kayak out from Tyndall Creek. 2-4 hours for detailed searches from that

	put-in.
	
	

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
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Wilderness: 1=no wilderness, 5=pristine, remote
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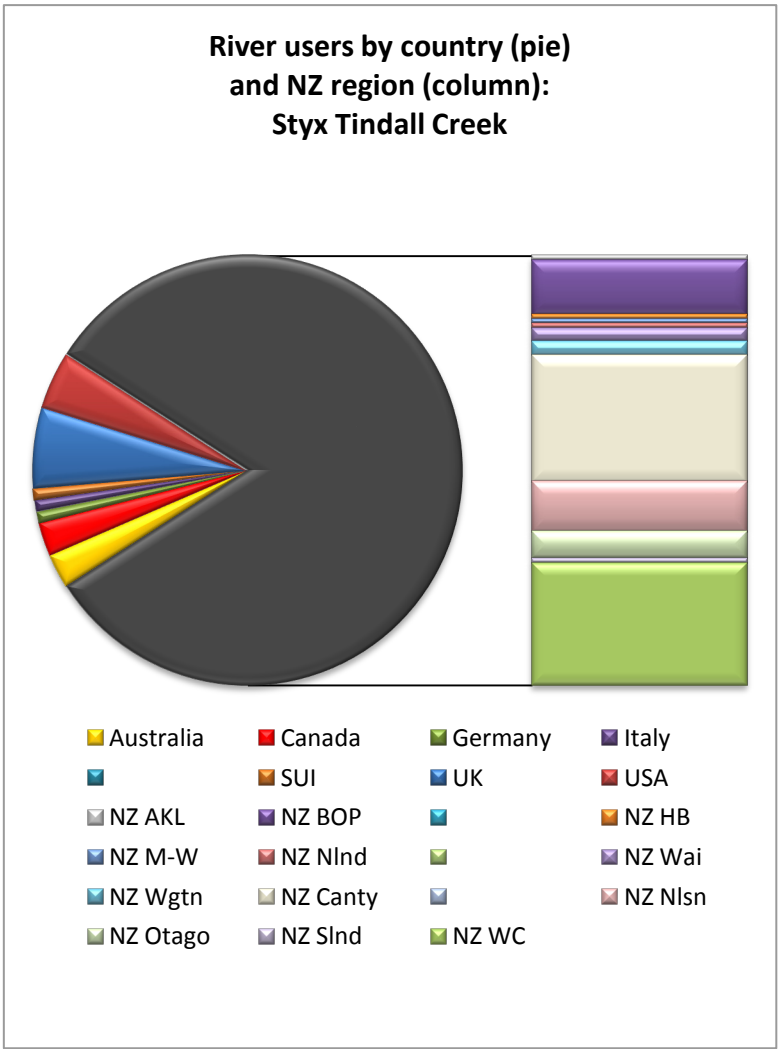
The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	1442
Number of respondents for this section	117
Mean number trips per person	12.3

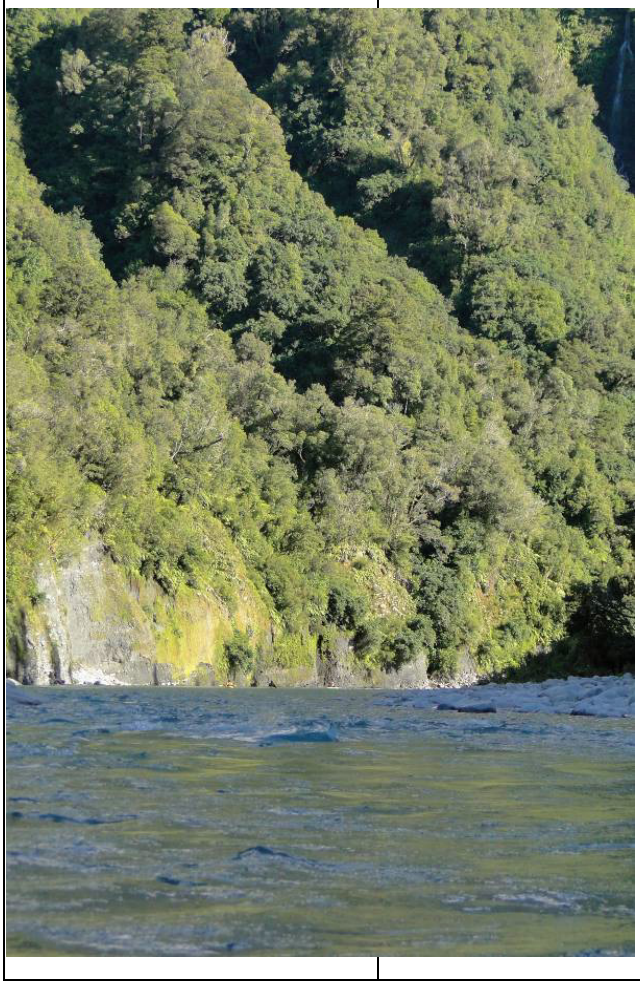
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Taipo (Julia Hut and 7-Mile Hut)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Julia Hut confluence Julia Creek and Mary Creek: 42° 53.830'S 171° 25.420'E 713 493 Alternatively upstream of Mid Taipo Hut approx: 723 521 Alternatively flats by "7 Mile Hut" (Dillons Homestead Hut) on map: 754 627	SH73 road bridge, river right upstream of bridge: 42° 45.265'S 171° 24.178'E
Access description	Helo access from clearing by SH73 road bridge to Julia Hut or Mid Taipo Hut. This trip with Coastwide Helicopters using an R44. 4WD road access to 7 Mile Hut.	
Land status (banks)		
Date kayaked (for this report)	7th April 2010	
Group members (on this trip)	Rob McConnell (NZ) Eddie Murphy (NZ) Bruce Cameron (NZ) Ashley Cheeseman (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	3 sections: Julia Hut (g4-5), Mid Taipo Hut (g3+/4) and 7 Mile Hut (g2+/3). From Julia Hut, a trip of 25km, there is read and run g4 whitewater which, at medium to high flows has a moderate gradient and river features such as hydraulics and pressure waves with a notably high river velocity. At lower flows such as when this trip took place, the river feels steeper, much more channelized and is considerably slower flowing. The upper Taipo has one major long g5 rapid although this can be portaged easily. The Taipo's whitewater is continuous and varied in the upper section. Even in the lower sections, it is quite continuous and fast flowing although there are defined easier sections of g1-2. Flow on this trip was approx 15-20cumecs at the put-in although the flow increased with tributaries. Typically, the Taipo is kayaked higher than this and can be kayaked at much higher flows. This gives it a great range of reliability and it is only likely to be unsuitable at extreme winter low flows and floods. From Mid Taipo hut down, the Taipo is classic g3 and g4 'read and run' kayaking with a moderate gradient. It has long rapids which are kayaked by 'eddy-hopping' through chutes between boulders.	

	From 7-Mile Hut down, the Taipo has fast-flowing shingle rapids with some boulder rapids, then narrows into the last gorge with some powerful hydraulics in g3 boulder rapids. It is harder at high flows and easier at low flows but can be kayaked by experienced kayakers even at a flood flow.
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water was bright blue and high transparency and great light penetration and visibility. It is, however, often discoloured with higher flows although typically a blue colour and can be an opaque silty grey. It is always clean in the upper sections although there are cows on the banks from around Mid Taipo Hut down. River bed features are typically boulders and shingle.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The upper Taipo is in a steep native bush-clad valley with views back upstream to snowy Mt Rosamond. It flows through several small gorges with vertical rock on one side but not through any deep gorges. There are hot pools on the river right in one upper gorge. On a sunny day, the upper Taipo is a highly scenic trip. From Mid Taipo Hut down, the Taipo flows through a wider valley with mountain sides until it reaches the gorge upstream of SH73. This gorge is impressive with vertical bedrock sides and a steep valley above them.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The long flight in to Julia Hut gives a good sense of remoteness and wilderness, although this is somewhat reduced by the presence of the hut and modified hot pools (if they are spotted). From the river, there is no sign of human influence until the trail comes next to the river around Dry Creek. From here down, there are fairly frequent reminders of human presence in the form of trail markers, a swingbridge and cable crossing. Wilderness is not a primary attraction for the Taipo. However, the lower Taipo from 7 Mile Hut down is a deservedly popular river for introducing lower ability kayakers to the West Coast environment. Where the river flows away from the road and into the pristine gorge there is no sign of human influence and the steep sides can feel quite intimidating to people less accustomed to wilderness. This section is very important for this reason.
Notable flora and fauna (eg blue duck)	5 whio seen on this trip.
Description of overall character of river	For experienced kayakers, the Taipo from Julia Hut is a fast flowing rollercoaster of read and run fun at higher flows and a long day out of constant whitewater without too much stress in a scenic environment at lower flows. It is much more a river than a steep creek. The easing gradient gives several put-in options that can be tailored to a mixed ability group which, combined with a wide range of suitable flows, gives the Taipo high reliability. However, the Taipo is a very cold river and a cold or windy day makes for a challenging and sometimes unpleasant trip.

	The lower Taipo from 7 Mile Hut down is an important step up or introductory wilderness experience for lower ability kayakers and is used for rafting due to the gorge scenery and continuous whitewater which makes a great introduction to West Coast rivers.
Distinctive features of river trip (key words)	Long day out; river; moderate gradient; mixed grade; helicopter
Info for land managers	The status quo is good for kayakers. It would be a great shame if the farmer was allowed to lock the gate to the lower Taipo, as this is an important drive in to an access wilderness experience which is rare.
Info for rescue managers	The Taipo is fast flowing and there are few obstacles to hang up floating objects, particularly at higher flows. On this trip there was a river-wide strainer in the gorge downstream of Tumbledown Creek and there will be other features from time to time. There are few reasons for anyone to be in the Taipo River as the only crossing has a swingbridge. However, a kayak team can make a quick and efficient sweep of the river as happened in December 2003 when a team of 3 kayakers did a sweep from Julia Hut to the SH73 road bridge in 2 ½ hours (at high flow). Usually, allow 4-8 hours from Julia Hut and 3-6 hours from Mid Taipo Hut, with 1-2 hours from 7 Mile hut. A helo search would be hampered by gorges, although there are long stretches that are visible from the air. An experienced whitewater spotter would be an advantage. The Taipo is hard to search for anyone, reducing POD, due to the width and fast flow of the river and occasional multiple channels. If it is considered likely that a person is in the river, then a combination of aerial and kayak search could be useful, concentrating the aerial search on the open sections.
	Gorge near Julia Hut 

View upstream in upper Taipo

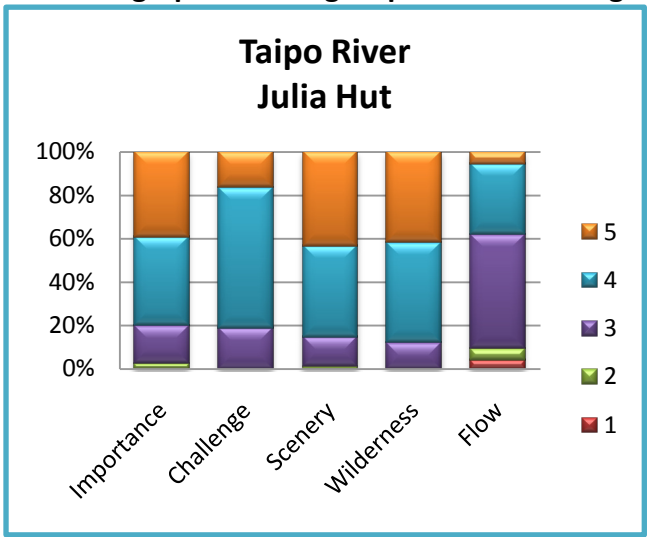
View upstream from swingbridge



Steep sides in lower gorge
, just upstream of SH73

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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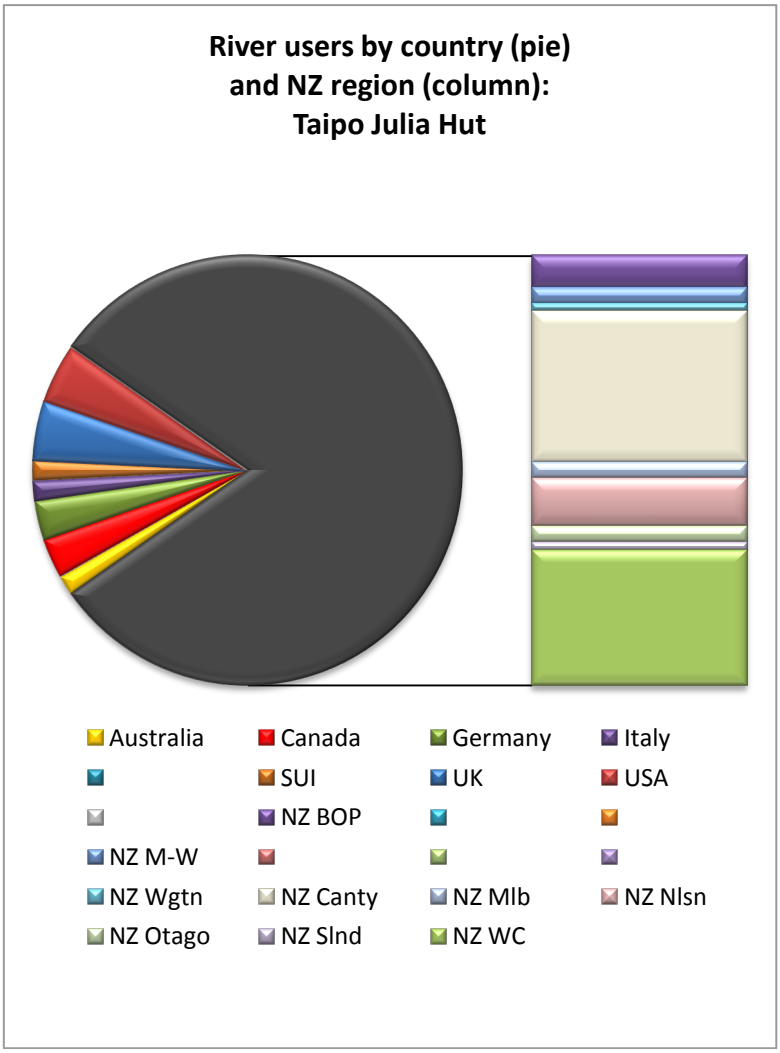
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

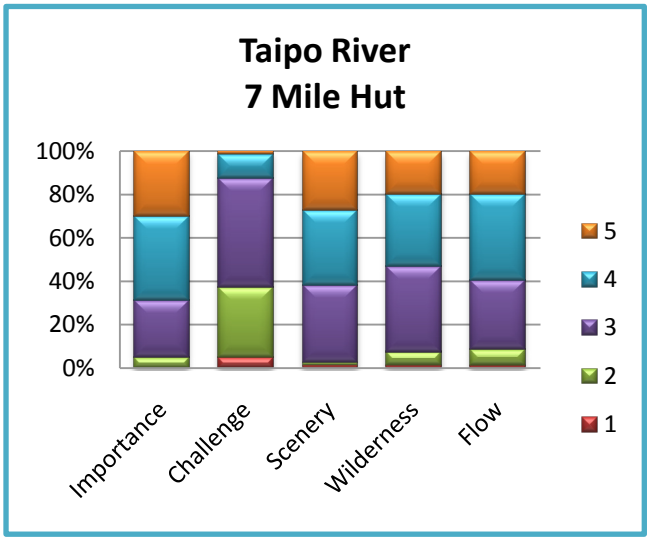
The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	200
Number of respondents for this section	73
Mean number trips per person	2.7

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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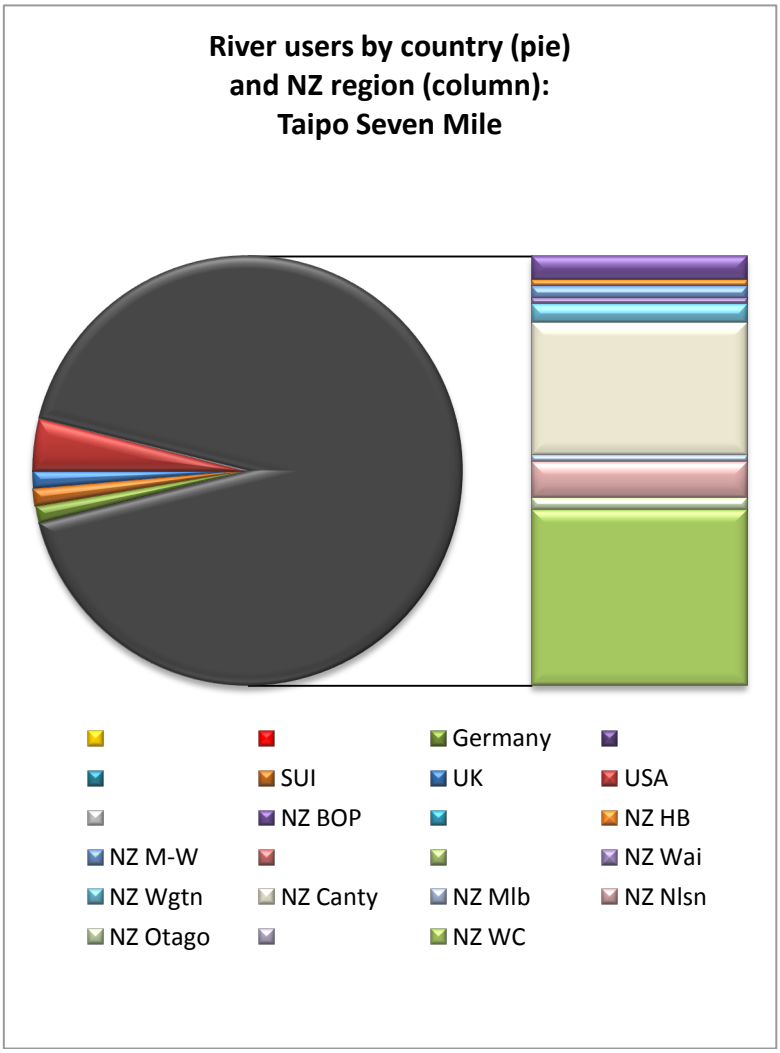


Numbers	
Total number trips recorded	572
Number of respondents for this section	79
Mean number trips per person	7.2

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Toaroha (normal walk-in)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Downstream end of river flats upstream and opposite Backstair Creek approx: 42° 55.426'S 171° 7.345'E 467 458 Alternative put-ins by walking upstream along river towards Toaroha Canyon. Has been kayaked from source lake.	Paddocks at end of 4WD track approx: 42° 54.758'S 171° 7.762'E 473 472
Access description	Drive (easy 4WD) to trail end. Walk about 1.8km on reasonably well maintained (boggy) track to 'normal' put in (about 30min for fit person). Note: put-in track is not marked on map as it forks from marked track at about 468459 and follows down an unmarked creek to the river.	
Land status (banks)		
Date kayaked (for this report)	22nd March 2010	
Group members (on this trip)	Dave Ritchie (NZ) Liam Anderson (NZ) Peter Kettering (USA/NZ) Mary Harrop (USA) Ky Delaney (USA) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Toaroha is kayaked at high flows after rain (occasionally at lower flows but offering significantly lower quality kayaking). On this trip it was a medium flow of approx. 25-30 cumecs. The need for rain reduces the Toaroha's reliability although during spring it is increased. The Toaroha has a moderate gradient giving it 'real river' qualities of medium length rapids usually requiring several controlled moves and the ability to 'read and run' whitewater. There are pools of easier water between rapids. Rapids are around g4 although the Toaroha is considered a 'soft'g4 and rapids could be graded 3+ with one g4 at the end. Waves and holes would be the most common hydraulic features, with high quality form.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the water was green and mostly opaque: at higher flows it is frequently brown and opaque, at lower flows a more transparent green but due to the need for increased flows I have never seen the Toaroha completely transparent. Water quality is good and the water can be drunk. The river bed varies from boulders to shingle to bedrock, all having unique effects on the water landscape. For a short river	

	trip, the Toaroha has a remarkably high variety of water landscape features.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Toaroha valley is steep-sided and bush-clad with impressive cliffs on alternate sides. The last rapid is in a shallow gorge. The river exits the gorge into rough grazing farmland. Due to the winding nature of the Toaroha, there are no views to high alpine mountains.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	With a drive and short walk, the Toaroha should not have much feeling of remoteness. It does, however, with a notably pristine river corridor (until the end of the last gorge above which is strung a cable). So the Toaroha does not have extreme feelings of wilderness or remoteness but it has notable doses of both, notable given such a short distance from roads and people.
Notable flora and fauna (eg blue duck)	None seen on this trip.
Description of overall character of river	The Toaroha is a local favourite for high quality river features in a short trip. It has a positive ratio of river:walk with 2.5km of river to 1.8km of walk. Its moderate gradient, wide and long rapids with multiple varied features and comfortable read and run style (for experienced kayakers) make the Toaroha a popular trip. Its moderate gradient and pool-drop nature also makes it popular with less experienced kayakers looking to step up to harder whitewater.
Distinctive features of river trip (key words)	Rain; river; moderate gradient; bedrock; long rapids; pool drop
Info for land managers	Vehicular access through farmland to the trail end is vital for kayakers. The trail used by kayakers veers away from the valley trail at about 468459 and follows down an unmarked creek to the river – this has caused confusion with visiting kayakers on several occasions as they have taken the wrong turn: it may be worth sign posting the river trail.
Info for rescue managers	The Toaroha track is well maintained and has swingbridges where crossing are needed so it is unlikely that a tramper would end up in the main river. However, a kayak team would be an effective search method if it was suspected that someone was missing in the immediate river corridor. The Toaroha has been kayaked from its source, but the Toaroha Canyon and sections upstream of Mullins Creek require portaging and very slow progress. Although these sections aren't regarded as kayaking sections, they could be descended by a kayak team for a search, although progress would be very slow and require advanced rope handling skills. In the usually kayaked section of the Toaroha, there is usually little to snag floating objects and high flows would most likely wash anything through quickly. Opaque water, wide channels

	and deep pools would give a very low POD for a non-communicative target. The Toaroha drops quickly once rain stops though, so a search for a potentially non-communicative target may be worth delaying if possible. It is also therefore important to bear in mind the flow history when planning the SAR op.
Any other notes	Toaroha put-in

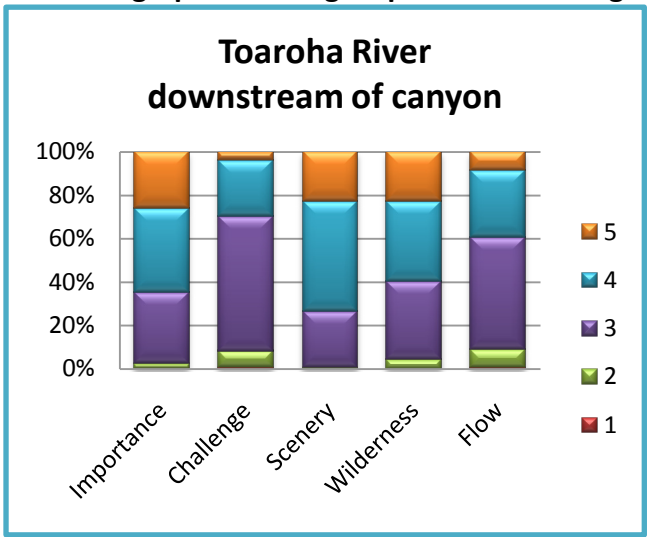
Early boulder g3+ rapid on

Typical g3+ bedrock/boulder

Entering the last gorge

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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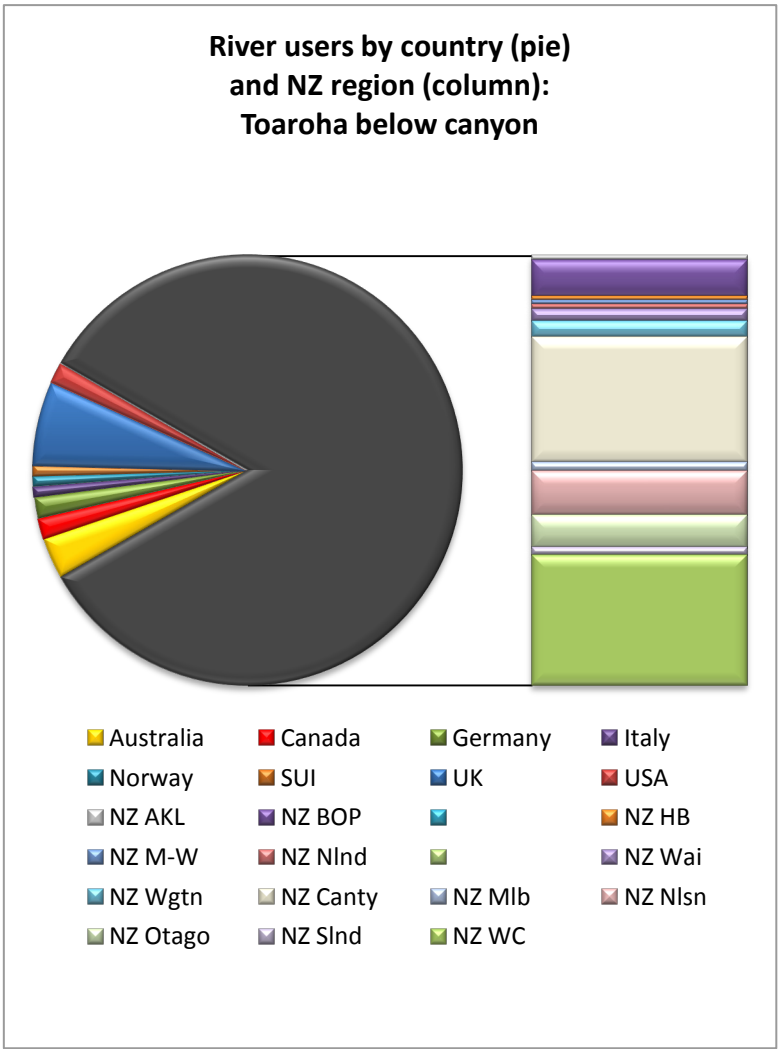


Numbers	
Total number trips recorded	1058
Number of respondents for this section	130
Mean number trips per person	8.1

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Totara	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	There are several options along the straight road through Cedar Flat, approx: 42° 58.101'S 170° 51.307'E 252404	At end of farm track approx: 42° 53.984'S 170° 51.941'E 257481
Access description	2wd gravel road access along Totara Valley Road (this road sometimes gets damaged by rain and slips so 4wd useful). Takeout on farm track. On this trip, farmer gave permission to drive to river	
Land status (banks)		
Date kayaked (for this report)	21 December 2010	
Group members (on this trip)	Gareth Fryer (NZ) Eddie Murphy (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Totara is classic high-water grade 4, with big volume river features such as exploding waves, large holes, boils and buffers. The water flows quickly giving a rollercoaster ride so most river 'reading' is done from your boat on the go. Lines are generally reasonably wide but consequences of being off line can be severe. This trip was at a medium flow, very hard to estimate but approx. 40cumecs at the put-in and 50-60 at the take-out. It is okay at lower flows, but feels rocky so not ideal, and is enjoyed by regular users at much higher flows. The Totara requires heavy rain and drops very quickly – it is usual for it to still be raining whilst on the river. The Totara's reliability therefore is low, but its flow range is quite high.	
Description of water landscape (inc. water quality and clarity, river bed features)	Brown turbid water with low clarity as is normal for high water rain runs. River bed is usually obscured but is made up mostly of boulders with some bedrock ramps around the gorge. Cliff walls on river bends create buffer waves.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Totara valley is impressively steep sided with native forest cover. Gorges are steep sided with vertical sections, not particularly tight or high, dark in colour. As it is usually raining, and was on this trip, wider visibility is limited.	
Description of degree of wilderness feel (inc. presence or absence of	Access by road, with occasional views of the road and occasional road debris from tributaries, lowers the wilderness feel. where the Totara flows away from the road, through the gorge, there	

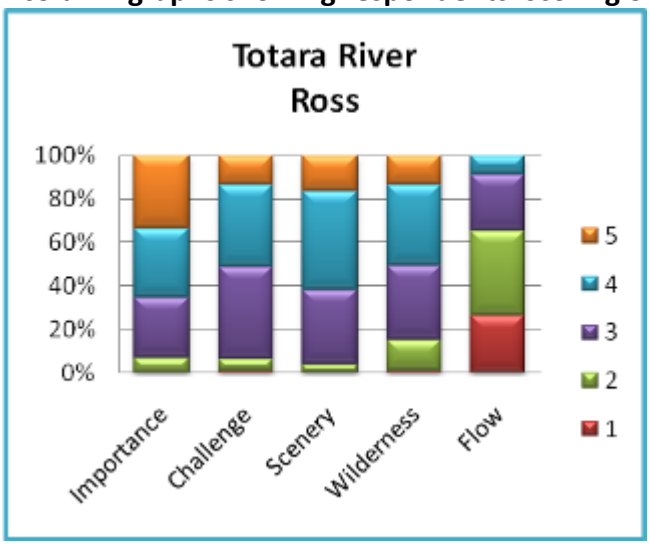
human influence, remoteness)	are no signs of human influence and the wilderness feeling is increased substantially. Overall, the Totara is not a wilderness-focussed trip but has a moderate degree of wilderness feel.
Notable flora and fauna (eg blue duck)	None noted.
Description of overall character of river	The Totara is the central West Coast's classic grade 4 high water trip. At the right flow, it offers continuous rapids for most of its 11km length. Combined with road access and pleasant river scenery, the Totara is a popular destination at times of heavy rain with users coming from Christchurch if they see a suitable forecast (graphs below).
Distinctive features of river trip (key words)	High water; heavy rain; grade 4; continuous; road access
Info for land managers	The Totara Valley Road is really all that is required for kayakers using the Totara, although access back to vehicles through private farmland reduces the flat water section at the end of the trip and is appreciated.
Info for rescue managers	It is hard to see who, other than kayakers, is likely to get in to the Totara river. With some overhanging vegetation and one reasonably deep gorge, a helo search would be limited but useful for 95% of the river. Snag pints and flows are not obvious so an experienced whitewater spotter would be useful. At high flows, it would be impossible to search the river itself with any effectiveness, but familiar local kayakers would be able to scan the banks for a live person with an acceptable level of safety to themselves. The river drops very quickly so it would be worth waiting to search if possible. At lower flows, the Totara is much slower and clearer, so searchers would be able to provide higher PODs. There are many possible snag points and pools, some of which could not be searched effectively at any flow. Allow 1-2 hours for a high water scan of banks; 2-4 hours for a low water search.
Any other notes	It was very hard to get good photos due to constant rain. (Right) Typical rapid before gorge 

(Left)
The crux rapid
in the gorge

(Right)
Typical easier
part of gorge

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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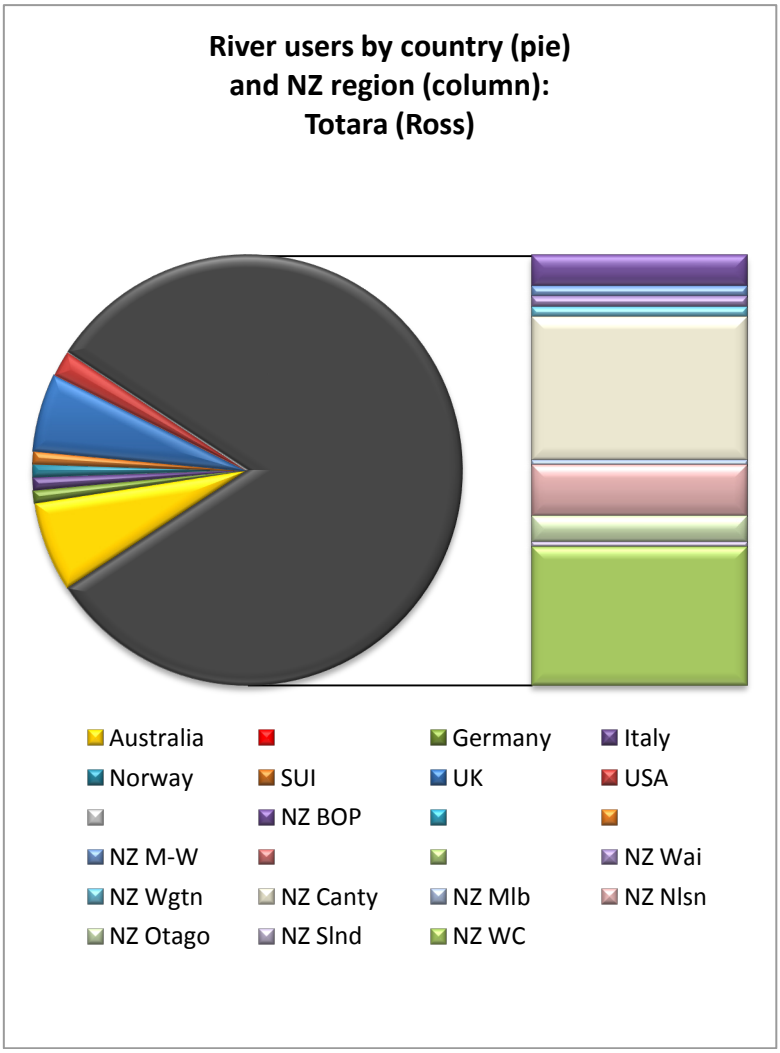


Numbers	
Total number trips recorded	580
Number of respondents for this section	106
Mean number trips per person	5.5

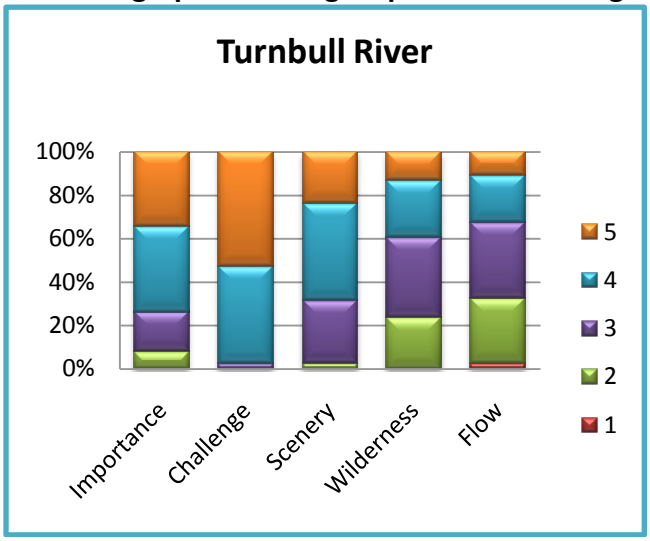
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Turnbull (from power station)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Next to hydro power station intake at end of Turnbull Road: 43° 59.017'S 168° 57.168'E 754 219	Depends on where it is necessary to leave vehicles (ie whether gate is locked). On this trip, with locked gate, take-out: 43° 58.079'S 168° 56.476'E 744 237
Access description	The Turnbull has notoriously difficult access, to the point that it was removed from the guidebook. This is due to local landowners locking a gate on the access road, Turnbull Road. Talking to people to get a key is usually fruitless and frustrating. This leaves the only option as leaving a vehicle at the locked gate, walking along the tar sealed road to the put-in, kayaking to a point close to the road then finding your vehicle.	
Land status (banks)		
Date kayaked (for this report)	14 February 2010	
Group members (on this trip)	Gareth Fryer (NZ) Mary Harrop (USA) Olaf Koehler (USA) Jason Shepherd aka JJ (USA) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Typically a bouncy and challenging g4-5 river, on this trip the Turnbull was very low and channelized. This changed the river's character, so I will first describe its character on this trip then from previous observations. On this trip, the Turnbull was low volume technical pool-drop boulder bed rapids navigated by choosing the most appropriate slot to get to the next eddy. Several rapids were too low to safely kayak as they had hidden rocks that and/or sieves. Flow would have been around 15 cumecs. Usually, the Turnbull would have at least double that volume of water, approx. 30 cumecs. It is then a fairly steep and continuous river with medium length rapids requiring several moves and generally considered to be at the limit of comfortable 'read and run' kayaking for an experienced kayaker. At this flow, it has many high quality hydraulic features. The Turnbull then requires rain or spring groundwater high flows, reducing its reliability during summer and winter.	
Description of water landscape (inc. water	On this trip, the water was a transparent blue-green. It usually has quite a high transparency, even at higher flows, although the	

quality and clarity, river bed features)	proportion of whitewater means that visibility is reduced. At all flows, the Turnbull is predominantly a boulder-bed river with a short bedrock section. Water is clean and drinkable.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Turnbull is in a native bush-clad valley surrounded by high mountains. Views downstream are limited but in places are expansive looking upstream. There is a short and shallow gorge with beautiful pools in which the river bed can be seen. The landscape is not the primary attraction of the Turnbull.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The road, locked gate and hydro power station significantly reduce the wilderness qualities of the Turnbull. Once on the river, it is set in a pretty valley with no immediately obvious signs of human influence, although after about 2km farmland becomes visible.
Notable flora and fauna (eg blue duck)	None seen on this trip.
Description of overall character of river	The Turnbull is known for bouncy, challenging and intense whitewater in a short section with lots of action. The water landscape is attractive without being spectacular. The locked gate preventing vehicular access has put off lots of users as the effort required for length of trip has reduced markedly.
Distinctive features of river trip (key words)	G5; long rapids; whitewater action; difficult access
Info for land managers	It would be great for recreation and our reputation overseas if the locked gate situation could be rectified. The Turnbull upstream of the road end looks to have top quality kayaking as a helo access river, but this is prevented by Wilderness Zoning I believe: it would be potentially very useful for kayakers to be able to explore the upper Turnbull and Mueller rivers.
Info for rescue managers	It is hard to see how anyone other than a kayaker could get into the Turnbull River, and a kayaker should have his rescue team with him. The Turnbull below the hydro intake has no tight gorges so it could be searched by helo, with the usual limitations: in this case it would be worth having an experienced whitewater spotter. A kayak team could search the Turnbull from below the hydro intake effectively, although POD would be reduced by the length, width and complexity of the rapids. Upstream of the hydro intake could almost certainly be searched effectively by kayak. A kayak team should be comfortable on g5 although everything can be portaged and some rapids should be portaged. Allow 2-4 hours for the 2.5km downstream of the hydro intake.

Short gorge

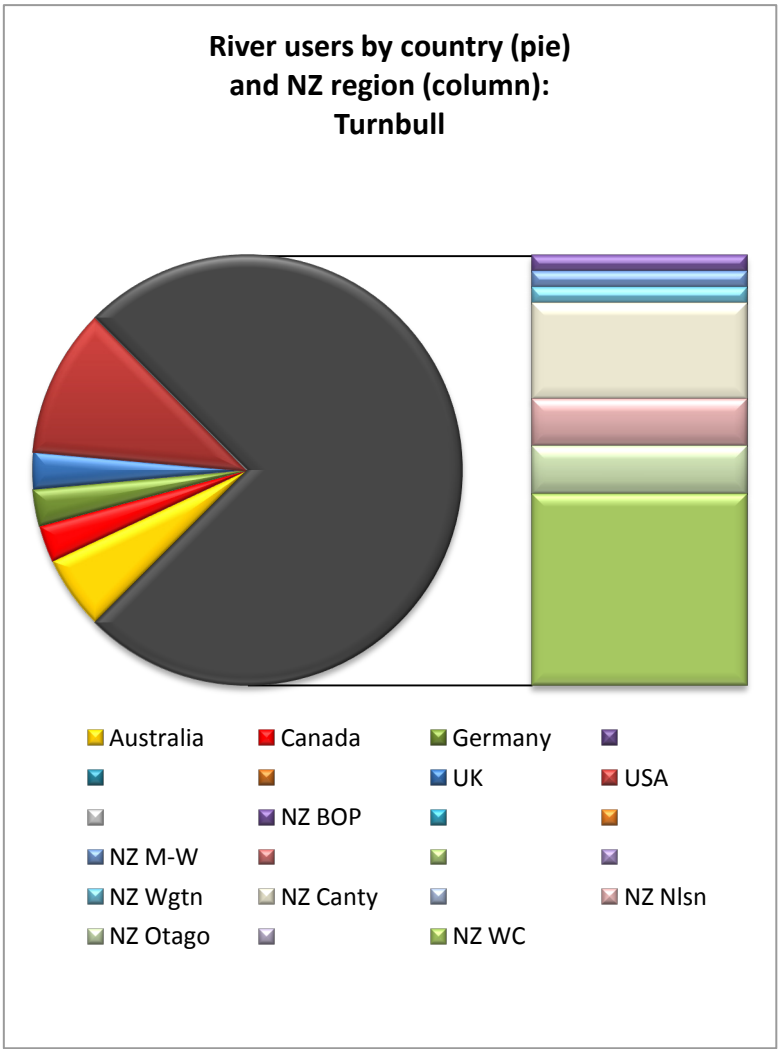
Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



Importance: 1=not, 5=extremely
Challenge: 1=none, 5=only on a good day
Scenery: 1=unattractive, 5=inspiring
Wilderness: 1=no wilderness, 5=pristine, remote
Flow: 1=unreliable, 5=very reliable

The bigger the block, the more people scored that number



Numbers	
Total number trips recorded	149
Number of respondents for this section	39
Mean number trips per person	3.8

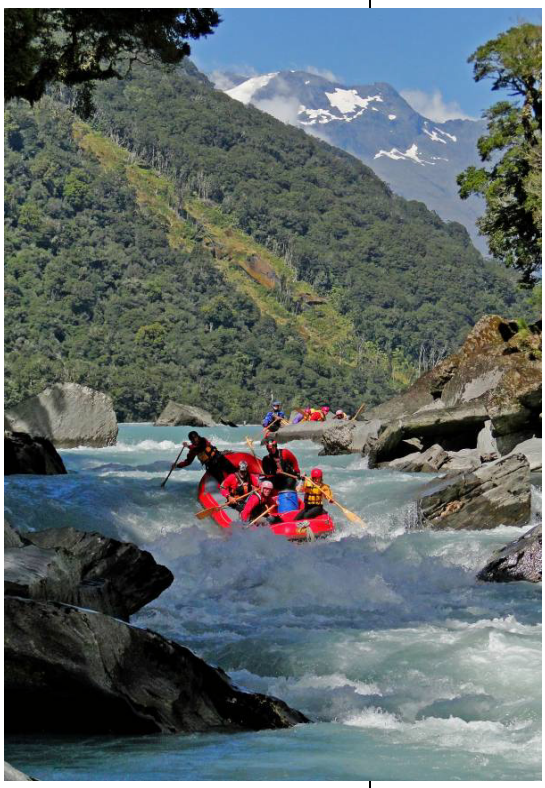
River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Waiatoto (normal 2 day fly-in)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Bonar Flats, approx: 44° 15.615'S 168° 47.296'E 637904 Camp spot Axius Flats, Naihi R. confluence: 44° 07.124'S 168° 48.786'E 650064	On beach at end of road on river right (north) approx: 43° 59.849'S 168° 48.207'E 635197
Access description	Helo access from road end at take-out. On this trip with Alpine Adventures (James Scott).	
Land status (banks)		
Date kayaked (for this report)	27th and 28th February 2010	
Group members (on this trip)	10 kayakers (5 NZ, 3 USA, 1 Germany, 1 Switzerland) 1 canoeist (UK) 10 rafters in 2 rafts	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Waiatoto is a g4 moderate kayaking trip which is mostly easier than g4. It has the style of a river, with low gradient and wide lines in rapids requiring several linked moves. It is pool-drop in style, with long pools after rapids and easy river sections between them. The Waiatoto is a medium volume river for the West Coast, on this trip approx. 50-60 cumecs. It is kayakable at most flows, although it is unlikely that teams would kayak it at very high flows due to the camping nature of the trip. This gives it a very high reliability and commercial users (raft groups) have scheduled trips throughout summer and early autumn that are very rarely changed due to flow.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this trip, the Waiatoto was a milky blue glacial colour with high opacity due to silt content from glaciers upstream. There had also been recent (light) rain. The water is clean. The river bed is generally wide and the bed obscured by water opacity.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Waiatoto river valley is steep-sided, wide and dramatic, surrounded by high mountains with upstream views to glacial peaks. Valley sides are covered in native bush and dissected by waterfalls. There are no dramatic, tight gorges.	
Description of degree of wilderness feel (inc. presence or absence of human influence,	The long drive, long flight in and dramatic mountain scenery give the Waiatoto a very high degree of wilderness feel. This is added to by the pristine river valley. The Waiatoto is a destination river for wilderness and	

remoteness)	remoteness, particularly amongst medium-skilled kayakers and upper-end commercial rafting clients. There is some sign of previous camping at the camp spot and of people from Casey Creek down.
Notable flora and fauna (eg blue duck)	Ragwort was present on the flats around Naihi River.
Description of overall character of river	The Waiatoto is 44km of wilderness whitewater river trip of moderate difficulty and outstanding quality, for its balance of whitewater and scenery in day 1 and early in day 2. It does have a long, flat paddle out for whitewater kayakers, which is less significant of on holiday and particularly if with rafters.
Distinctive features of river trip (key words)	Camping; g4; wilderness; scenery
Info for land managers	It is a great shame for river users that the Wilderness Area upstream of Bonar Flats is out of bounds to helicopters. If the Waiatoto could be accessed at its source lake, it would be one of New Zealand's and the world's most amazing river journeys. Other than that, kayakers need no more than the facilities that currently exist. Some river users could pint to potential conflict between jet boaters and kayakers/rafters in the lower section of the Waiatoto, but there is no need for conflict as the river is wide enough to sustain both types of craft.
Info for rescue managers	A helo could search all of the Waiatoto as there are no tight gorges. I would recommend an experienced whitewater spotter as entrapment possibilities are not obvious. There are in fact few major entrapment locations in this section, although the length of river and frequent slow sections gives plenty of opportunity for a body to sink. The length, width and multiple channels of the Waiatoto would give a very low POD without strong guidance as to the last known point. A kayak team could clear the Waiatoto from Bonar Flats in one long day although it would be useful to use jetboats as far upstream as possible and ideally have the jetboats assist the kayakers out. A kayak team could easily be deployed from the source lake down with appropriate time allowance made. The nature of the river means that a kayak team could overnight, given time to assemble equipment, without problem.

Any other notes

Whitewater and scenery

Pool drop rapids



Camping

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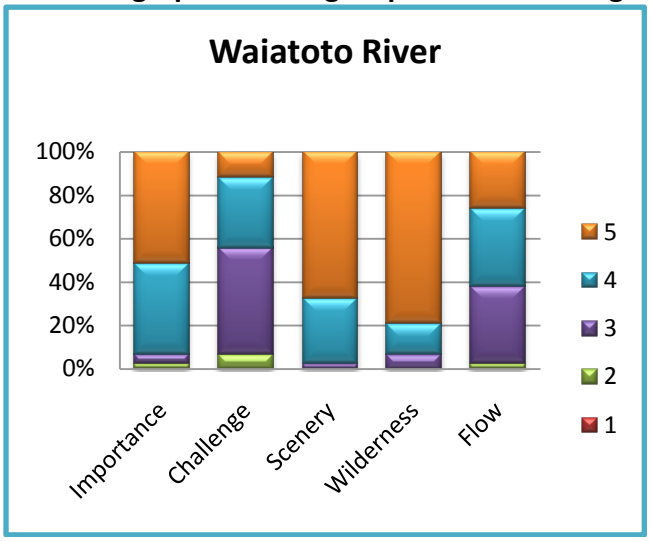
% column graphs showing respondents' scoring of river attributes



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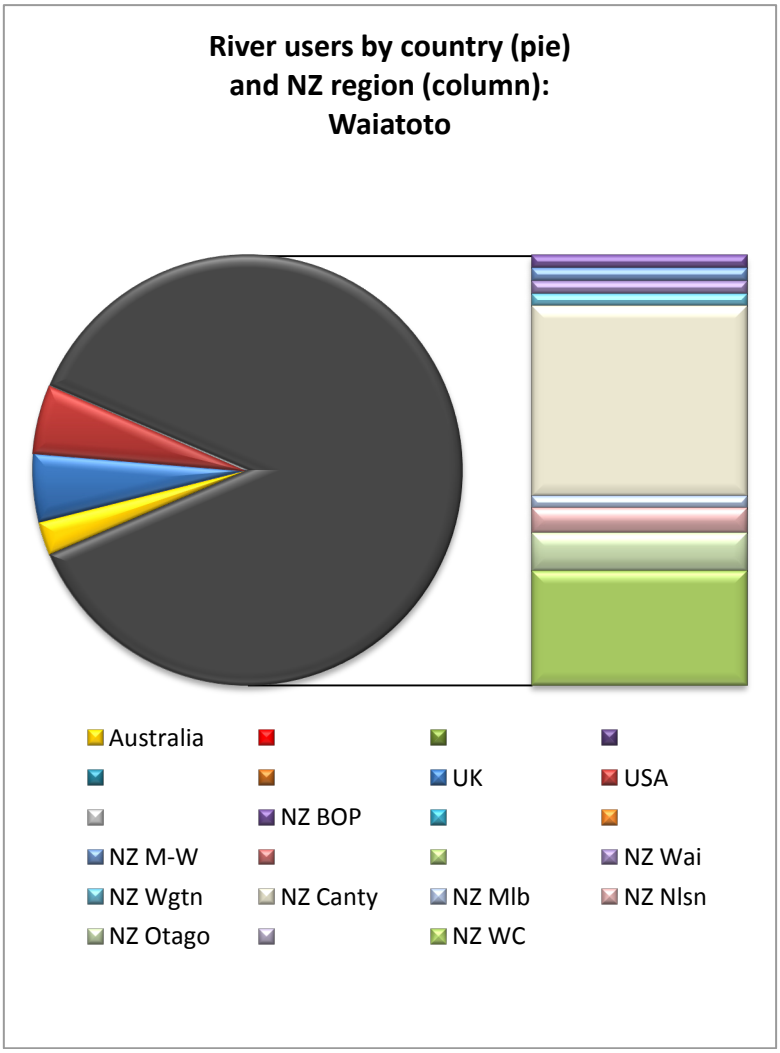

Numbers	
Total number trips recorded	53
Number of respondents for this section	43
Mean number trips per person	1.2

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Waimangaroa	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	We put on where the unmarked track river right came close to the river and gradient appeared to have eased. However, other put-ins may exist: 41° 43.6135'S 171° 47.434'E 994797	We took out where the gradient had eased and the river was lowing alongside the access road, approx: 41° 43.496'S 171° 46.564'E 983800
Access description	2wd vehicle to car park at foot of Denniston incline. Walk from there up track along river bank true left until this track reaches river (stops). Cross river without pushing too hard upstream, then find a small path up to a more obvious track about 10m vertical above river level. Follow this upstream until it comes back to river level (30 mins' walk approx.)	
Land status (banks)		
Date kayaked (for this report)	20 December 2010	
Group members (on this trip)	Eddie Murphy (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	This flow felt like a medium flow, maybe at the lower end of medium (dark brown, very approx. 25 cumecs). The Waimangaroa could be kayaked higher and a little bit lower. It certainly needs some rain, making it reliable only in wet times. At this flow, the kayaking was classy continuous grade 4 with holes, boulders and ledges, lines between often being along curling tongues.	
Description of water landscape (inc. water quality and clarity, river bed features)	Deeply coloured brown water with low visibility. Presence of mining in area and some litter on banks meant it did not feel clean. River bed features mainly boulders with some bedrock ramps, largely hidden from view by dark water colour.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Steep, V-shaped, native forested valley sides with some short, scoured rock gorge walls around river level. Valley is attractive scenery with views back to mountain tops when cloud lifted. Views downstream limited in expanse by winding valley, but Waimangaroa valley itself is attractive.	
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	Wilderness feel reduced by presence of some mine debris and some litter as well as short walk from road. Increased by rough nature of track and feeling that few people go there. On balance, this is not a wilderness trip by West Coast standards and wilderness is not likely to be the focus of users.	

Notable flora and fauna (eg blue duck)	None noted.
Description of overall character of river	The Waimangaroa is Westport's equivalent of the Styx River (for Hokitika): a local, easily accessed high quality fairly short (1.5km) walk in trip with good reliability. It is characterised by, at medium flow, good quality whitewater offering challenge and dynamically satisfying moves in an attractive setting. The Waimangaroa has higher numbers of local users than any other river and a high number of repeat visits for users.
Distinctive features of river trip (key words)	Walk in access; grade 4; continuous; rain required
Info for land managers	Access is not assisted in any way and could be improved easily, with an alternative walk for sightseers along river right bank from the Denniston Incline car park.
Info for rescue managers	Few people appear to use this valley. We did not see anywhere that a helo could land. A helo search may be useful: there are no deep gorges but there is overhanging vegetation. Potential snag points are numerous. In-river visibility is poor. Whitewater is prevalent. On the other hand, the river is reasonably narrow and a search by kayak quite possible. Expect a low-moderate POD. If it is possible to wait until the river drops (it drops quite quickly after rain) then a search could be more effective and a kayak team could still get down the river. A kayak team could walk in to the river in 30-50 mins and allow 40min – 2 hours for the kayak out depending on thoroughness of search required.

Any other notes	It is possible that the put-in location given is slightly inaccurate (up to 100m) as the location could not be confirmed at time of

Typical rapid (left)

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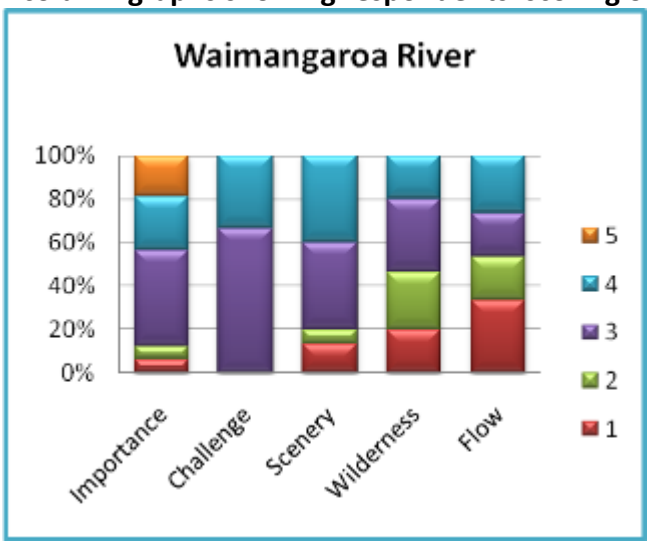

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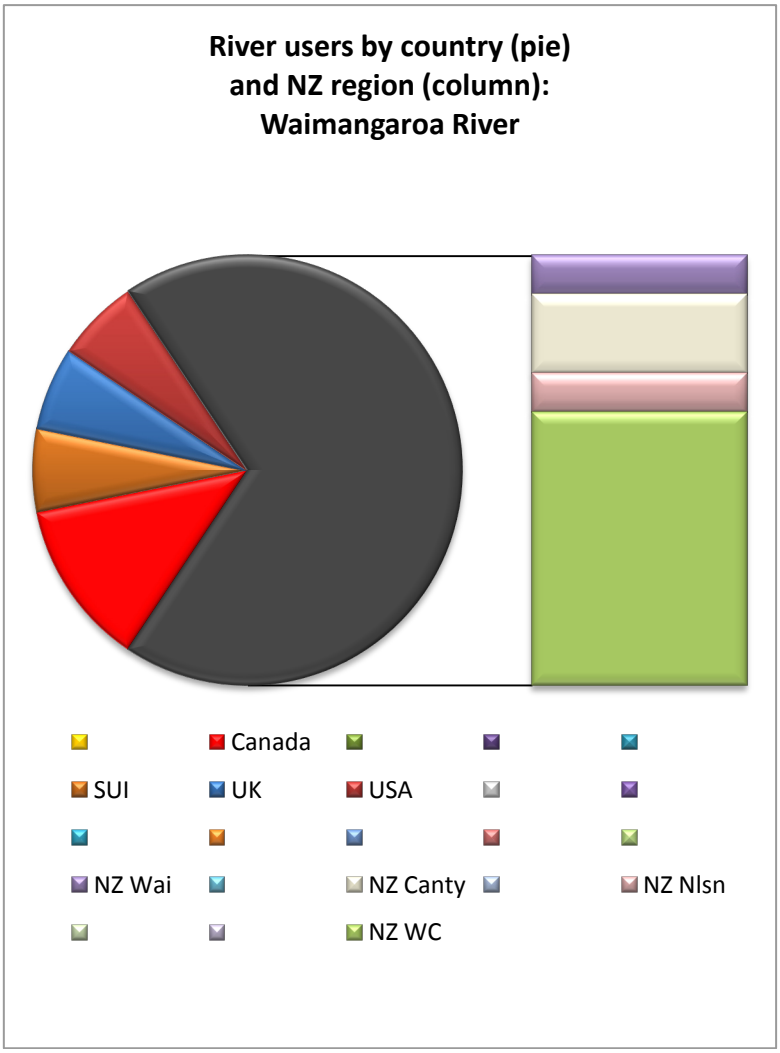
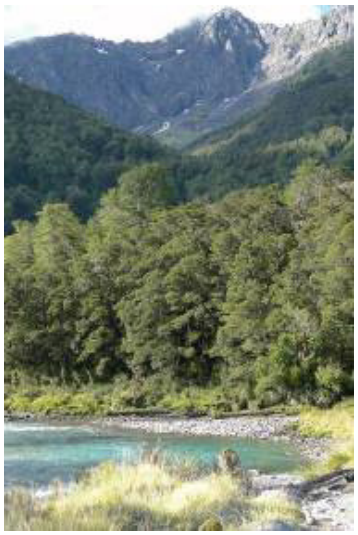


Numbers	
Total number trips recorded	328
Number of respondents for this section	16
Mean number trips per person	20.5

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Waipara (from source lake to Arawhata road bridge)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	At source lake below Bonar Glacier, approx: 44° 22.931'S 168° 39.021'E 535764 Overnight camp spot, this trip: River bend near Sutherland Creek facing Mt Barry: 44° 15.569'S 168° 42.602'E 576903	On beach river right downstream of Arawhata road bridge on Haast Jackson Bay Road approx: 44° 02.606'S 168° 43.474'E 575144
Access description	Helicopter from take-out, on this trip with Alpine Adventures (James Scott)	
Land status (banks)		
Date kayaked (for this report)	19th and 20th March 2010	
Group members (on this trip)	Dave Ritchie (NZ) Eddie Murphy (NZ) Kevin England (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The whitewater was either straightforward technical g4 or easy g2 or portaging, in the first 20km, until the flats downstream of Gorge Rapids after which it is all flat water (30km) to the takeout. Because the Waipara changes so much during its length (one of its attractions is being able to kayak the whole length of the river) it is hard to generalise. It starts as a trickle out of the source lake, approx. 5-10 cumecs on this trip. Kayaking is a scrape at this stage and hitting rocks is inevitable. One of our party walked the first 1000m. As tributaries swell the Waipara's volume, it quickly reaches 15-20 cumecs and becomes more of a river. Rapids are discrete but still largely rocky. There are then some gorges with cleaner whitewater rapids and bedrock sides. Several rapids were too steep and rocky to kayak at this flow and we judged them unlikely to be kayakable at higher flow, but were easily portaged. The map states lots of rapids but these do not necessarily mean much on the river. Rapids continue at around g3-g4 throughout day 1. Early in day 2 the Waipara enters a bedrock and large boulder gorge with high quality rapids. There is then a pool before a slip section in Gorge Rapids which becomes a large (about 1km) portage. After this there is a section of g3 rapids then the Waipara becomes flat for about 5km before joining the Arawhata for another 25km.	

	The low flow we experienced was suitable but a slightly higher flow would most likely be better. A high flow would be scary and difficult. The Waipara is likely to be highly reliable from spring through summer, although best in spring.
Description of water landscape (inc. water quality and clarity, river bed features)	The Waipara flows from a lake beneath a glacier, so was milky opaque blue-green on this trip and likely to be so at all flows. It is clean and drinkable. From a narrow stream through boulders the Waipara widens into a river through boulders then a river through narrow bedrock gorges, then a river through gorges made of massive boulders. Due to the water's opacity, river bed features are less significant than the surrounding valley.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	At all stages, the Waipara is surrounded by an exceptionally attractive valley of inspiring alpine landscapes. Starting beneath Mt Aspiring and the Bonar glacier, it is worth kayaking around the lake looking at 500m high cliff faces and downstream to Mt Ionia. As the river progresses downstream, the valley sides stay steep and covered in native bush with high mountain tops either side. There are grassy river flats and sculpted rock gorges. The camp spot we chose was on a river beach facing the steep sides of Mt Barry and a beautiful stretching river bend with deep blue pools. Downstream, the valley narrows further around Mt Barry into the Gorge Rapids. There are more sculpted gorges, with amazing patterned rocks and wedged trees showing a mobile landscape. After portaging around a major slip rapid, the valley stays narrow with undercut cliffs and very steep sides. All of a sudden, the Waipara spreads out into the expansive Arawhata valley and fences can be seen for grazing cattle. The Arawhata is then followed along wide, flat braids to the take-out.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The Waipara has the greatest degree of wilderness feel of any river I've been on anywhere in the world, let alone New Zealand. Only the upper Cascade would be close. It is a long drive and a long flight in. The environment is pristine and the scenery large scale and dramatic: it is clear that there are no tracks and the bush is dense, and it feels like a long way back to the road. After leaving the lake, above which mountaineers' and tourists' aircraft can be heard (and after out helo had left) there was not one little sign of human influence in day 1. We noted one little piece of tape, presumably left by a hunter, at the portage rapid on day 2, then nothing again until the grazing area at the Arawhata.
Notable flora and fauna (eg blue duck)	Nothing noted on this trip.
Description of overall character of river	A serious wilderness whitewater overnight river trip with great adventure characteristics in a pristine and dramatic alpine environment.

	Never harder than g4, a kayaker would nonetheless not want to make a mistake in this river, so far from help. The focus of the trip is very much on the journey rather than the technical aspects of kayaking. Camping made easier by dropping equipment from helo on the way up the river. The Waipara would be one of my favourite kayaking river trips ever, although the distance and expense of the trip would make it something only to be repeated every few years.
Distinctive features of river trip (key words)	Camping; wilderness; remoteness; scenery; adventure
Info for land managers	It is a great shame to me that the Wilderness Zone prevents helo access to the source lake of the Waipara, especially given the helo access for mountaineers so close by. Enabling access to this river would create a world class adventure kayaking opportunity that would nonetheless not be taken up by the masses due to the seriousness and expense of its remoteness (and the 30km flat paddle out).
Info for rescue managers	Unlikely as it is to ever be needed here, the valley does get used for hunting in the Roar and it is feasible that a hunter could slip in the river. Most of the river could and should be searched initially by helo, although I would recommend taking an experienced whitewater spotter. A kayak team could search the Waipara effectively, although the length, complexity and cloudy water would greatly reduce POD (unless last known point was established close to the river). The slip rapid in Gorge Rapids has many deep sieves that could not be searched with certainty by anyone. Time management would be an issue, depending on last known point. Allow one long day from the lake to the dog leg bend by Mt Barry and almost a day from there to the Arawhata, from where jetboats should be used (and hopefully assist kayakers to the road).
	 

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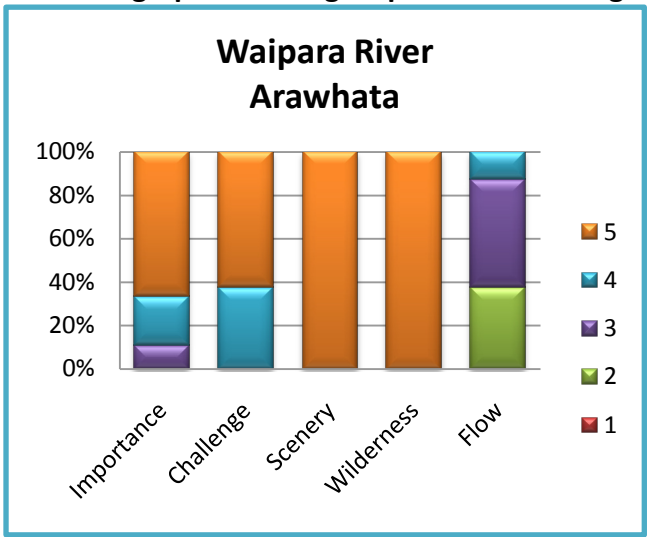

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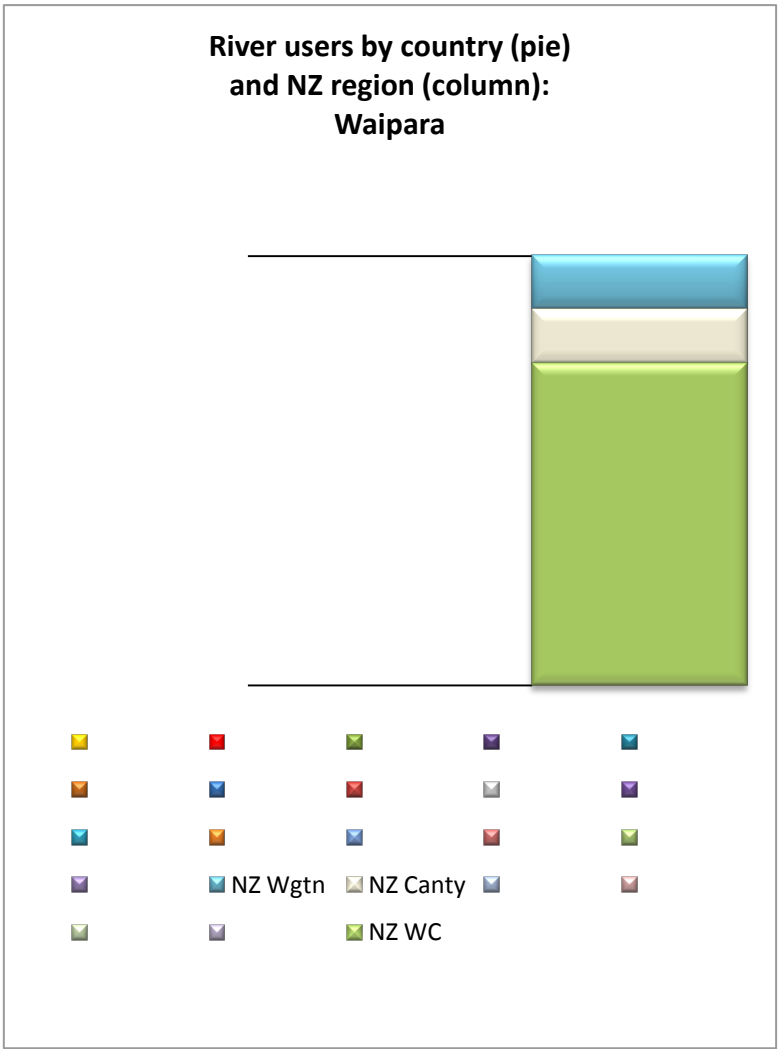


Numbers	
Total number trips recorded	8
Number of respondents for this section	8
Mean number trips per person	1

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Waitaha River (normal fly-in around Moonbeam Hut)	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	Wherever the helo can land on riverbed around Moonbeam Hut, on this trip river left bank opposite Dorothy and Moonbeam Creeks, approx: 43° 08.388'S 170° 48.822'E 223 213 There is a walk-in option to the downstream end of Morgan Gorge, put-in depending on ability but around: 151 255	At downstream end of Robinson Slip, river right, approx: 43° 06.092'S 170° 43.816'E 153 254
Access description	Helicopter access usually with Kokatahi Helicopters. Helo pick-up varies depending on vehicular access to Robinson Slip, but is usually from Robinson Slip.	
Land status (banks)		
Date kayaked (for this report)	20th February 2010	
Group members (on this trip)	Paul Currant (UK/NZ) Keith Riley (NZ) Kevin England (NZ) Andy England (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Classic adventure whitewater grade 5. The Waitaha is medium steep, technical g4 and g5 pool-drop river kayaking. The pools are short, except Kiwi Flat, and the rapids are medium length usually requiring several linked moves, and very close together. Whitewater is powerful and varied, with holes in particular commonplace. Hazards are very real and varied, with sieves and caves on top of the usual hydraulic hazards of holes and waterfalls. Portaging is possible but usually technical in itself, requiring skill in moving on steep rock and in at least one place a 5m seal launch into a powerful hole. A lot of the Waitaha is very committing, set in gorges with steep rock sides. It is also physically and mentally (if not emotionally!) tiring, creating an epic adventure style of kayaking. On this trip, the Waitaha was at the lower end of medium flow and approx. 30 cumecs. It is commonly run lower than this and higher. At lower flows, holes can be even more powerful in places and rocks can be disconcerting, while at higher flows rapids can be very quick and powerful. It is unlikely that the Waitaha would get kayaked at flood flows as it would be very powerful and almost impossible to portage rapids in the gorges.	

	It does, however, have a broad range of useful flows making the Waitaha's flow very reliable throughout late spring through to autumn. The section from Moonbeam to Morgan Gorge is about 7.5km, then just over 1km through or around Morgan Gorge, then just over 5km to the take-out at Robinson Slip: 13.6km in total.
Description of water landscape (inc. water quality and clarity, river bed features)	The water is almost always silty-opaque, with a green or blue grey colour. Its opacity varies throughout the season. The river bed varies from boulders to bedrock with some amazing features of both, including caves and waterfalls made from huge boulders and chutes carved from bedrock. In most of the section before Kiwi Flat, it is whitewater that is prevalent. Kiwi Flat is a gentle shingle section, followed by Morgan Gorge and downstream with more bedrock and boulder whitewater. There is no return to shingle until the take-out.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Waitaha valley is steep sided and covered in dense native bush. The sides are dissected by slips, tributaries and waterfalls. The Waitaha has several spectacular gorge sections, although only two are named on the map (it is not usual to kayak Windhover Gorge, although I believe at least one group has). Waitaha Gorge seems to be several gorges, from river level. There is one particularly scenic section with numerous waterfalls very close together, running over cliffs on river left, which always seem to catch the sun to create rainbows. Most of Waitaha Gorge is reasonably wide, although it narrows in one section to river width and constricts the river to a winding slot with cliffs either side. The resulting erosion of the rock makes incredible sculpted gorge sides. Waitaha Gorge spills abruptly into Kiwi Flat, which is a reasonably wide grassy flat covered in layered shingle/sand beaches from floods. The valley sides wrap around Kiwi Flat on all sides with only a slot for the Waitaha River to exit from. This is Morgan Gorge which is one of the most spectacular gorges – perhaps the most spectacular - on the West Coast. It has high, vertical sides which are close together and are fluted vertically in sharp arêtes instead of the usual gentle waves of gorge wall profiles. The upstream end of Morgan Gorge has large boulders at river level but the gorge narrows further as you progress downstream, to a point where it opens out slightly and cascades over a steep rocky slip next to a huge boulder or eroded bedrock shape. There are hotpools on the left bank here. Morgan Gorge then turns to the right and flows straight out to its sudden downstream mouth. The rapids at this point go over a small waterfall into a calm pool, from which you can look back upstream (usually in awe) into Morgan Gorge. Downstream, the valley progressively widens and the gradient progressively eases until you reach Robinson Slip. Here, at the

	take-out, the Waitaha becomes a wide valley and the shingle rapids lead downstream towards the sea which is apparent in the light and openness of the valley at this point. From put-in to take-out, the Waitaha is a spectacularly scenic river, primarily for its gorge features.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The Waitaha river trip has a very high wilderness feel, despite travelling through farmland to reach the helo pick-up and flying over a swingbridge and hut. The immediate river corridor is pristine and wild in every way, with no sign of human influence until observant paddlers notice the ominous monitoring equipment around the end of Waitaha Gorge, then the trail marker and bridge at the start of Morgan Gorge (usually a portage along the trail). There are then some signs of further industrial work on the river bank downstream of Morgan Gorge, where surveying for a potential hydro scheme has obviously taken place. Despite the detracting factors of the industrial monitoring, the Waitaha currently feels very much like a pristine wilderness adventure and the aggressiveness of the river environment adds significantly to that feeling. At the time of this trip, Morgan Gorge had not been descended right through (I was part of a group who attempted to in 2003 and members of my team from this trip successfully kayaked Morgan Gorge the day after this trip). The portage, however, is an important part of the 'wilderness' adventure experience: it is arduous, carrying a kayak through dense bush for 1-1.5 hours and requires both skill to find the trail which is frequently broken by slips and stamina to complete this portage after an intense day of difficult whitewater kayaking. The fact that there are still technically challenging rapids after the portage adds further to the sense of wilderness adventure. On this trip, I found the Waitaha to be every bit the wilderness adventure experience that I have in the past.
Notable flora and fauna (eg blue duck)	None on this trip although I have seen several whio in the river at Kiwi Flat every other time I have been here.
Description of overall character of river	This is the pinnacle of one-day wilderness adventure kayaking on the West Coast and a classic grade 5 river trip of world class. The Waitaha offers an intense and aggressive whitewater challenge set amongst spectacular gorges, with a known challenge held back for the end of the day in the form of the Morgan Gorge portage. Morgan Gorge now being paddled leaves a delectable challenge open to the world's most skilled whitewater kayakers.
Distinctive features of river trip (key words)	Adventure; grade 5 whitewater; gorges; wilderness; commitment; hot springs; portage
Info for land managers	Vehicular access to the road end can be difficult and it would be very useful to ease this difficulty on either bank (in the past, the south bank has been very difficult despite there being a DoC

	track). For kayakers, deterioration of the track is not a problem and possibly even adds to the adventure challenge of the day. Helo access is essential and due to usual landings in the (mobile) river bed, helo access leaves no traces. The presence of testing equipment in the river bed is ugly and offensive to kayakers. Progress towards a hydro scheme of any sort in this river would be vehemently opposed by kayakers, with no compromise position possible.
Info for rescue managers	As the track is mostly well back from the river, it is unlikely that anyone other than a kayaker would end up in the Waitaha river. Most kayak teams that paddle the Waitaha are well experienced and act as their own rescue team. In the event of a SAR op, a helo sweep of the river is worthwhile as most of the river is visible from the air (except Morgan Gorge). I would strongly recommend using an experienced whitewater spotter as there are many unusual river features. Due to the Waitaha's usual cloudiness, steepness, technical challenge and complexity, any search for an unresponsive target is likely to produce a very low POD. An experienced kayak team could search the Waitaha safely with reasonable effectiveness, especially looking for a responsive target. It would require a highly skilled team. Allow 4-6 hours from Moonbeam Hut to Kiwi Flat and more if detailed searching is required. Carrying overnight equipment on the Waitaha would be hazardous and it may be necessary in this case to plan to helo out from Kiwi Flat (or drop overnight gear there). The Waitaha holds its flow for several days after a reasonable rainfall event. At low to medium flows, it is possible to portage all grade 5 rapids (which I think is essential for risk management on SAR ops).

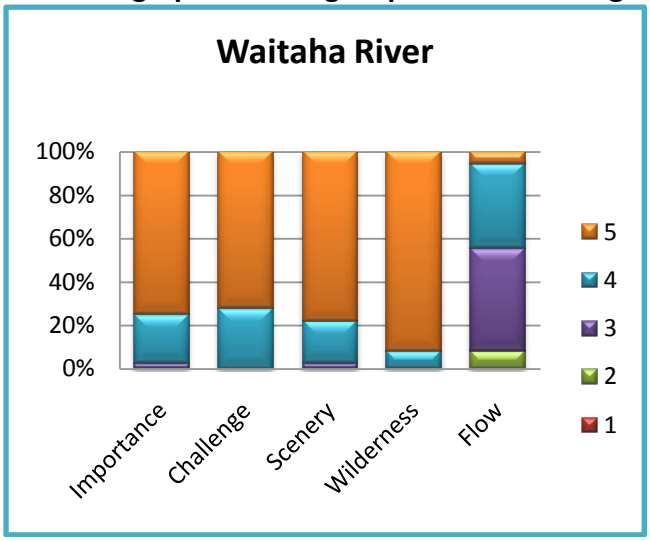
Any other notes

Put-in from helo

River scenery – waterfalls and gorge walls

Statistics from 2010 West Coast Whitewater Kayaking Survey

% column graphs showing respondents' scoring of river attributes



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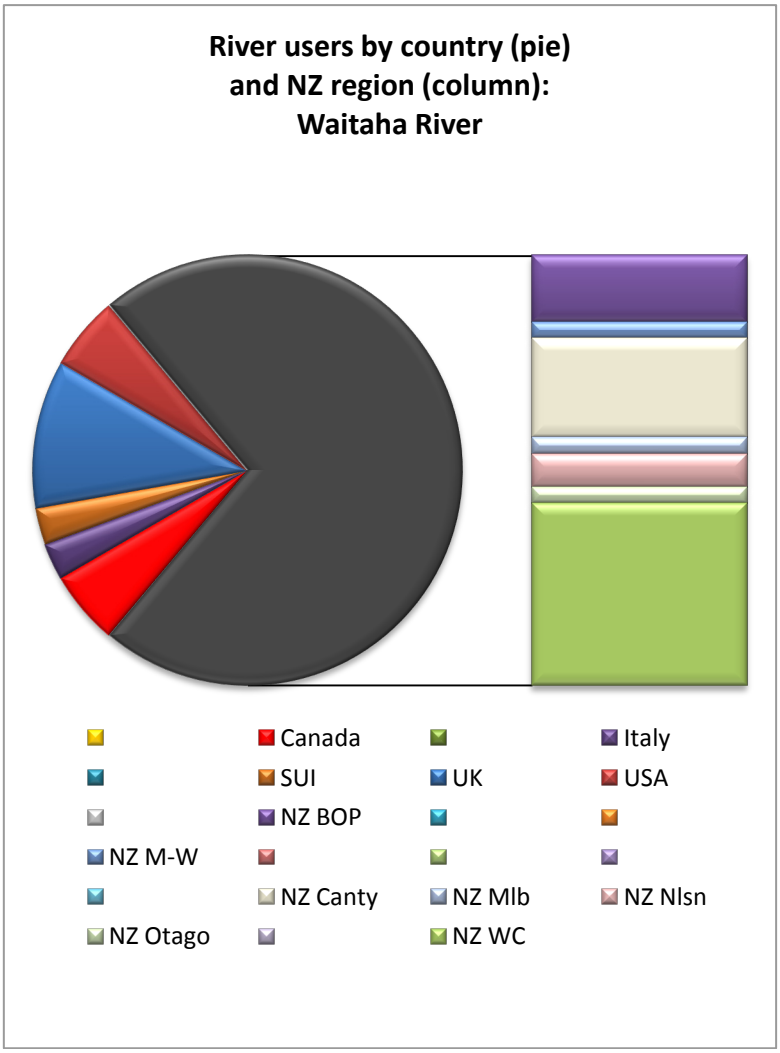

Numbers	
Total number trips recorded	92
Number of respondents for this section	36
Mean number trips per person	2.6

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Wanganui (Upper) inc. Wanganui 'Lower' from confluence	
Locations (latitude and longitude of put in and take out)	Put in	Take out
	'Upper' About 2km downstream of Smyth Hut on gravel banks on river left above rapid at around 233138 43° 12' 52.8" S 170° 47' 50.2" E 'Lower' from Jones Flats near Hunters Hut at confluence with Adams/Lambert around 173116 43° 13' 15.4" S 170° 45' 40.8"E	On this trip, paddocks at 073177 43° 12' 58.6" S 170° 47' 48.1" E
Access description	Helicopter access, sometimes with James Scott/Alpine Adventures and sometimes with Bruce Dando/Kokotahi Helicopters (virtually equidistant, depends on size of group). Access used to be from end of minor road on northeast side of Wanganui river but on this trip that road had been cut off by river erosion and access was by helo from paddocks just south of Amethyst Creek	
Land status of banks		
Date kayaked (for this report)	06 02 2010	
Group members (on this trip)	There were 31 kayakers on the Wanganui on this day. 16 were from the Whitewater Canoe Club of Christchurch, including 3 from Western Australia. Another group (7) were former colleagues of a rafting company meeting socially and the last group (5) was an informal grouping of tourist and resident kayakers.	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	The Upper Wanganui is moderately steep, technical g4+ rapids. They are typically multi-move and can be quite long rapids with little let-up between one rapid and the next. They are mostly formed by boulders but there are more bedrock sections than is usual for the West Coast. Flows on this day were low (est. 20m^3/s at put in). This section can be kayaked at a range of flows but I don't think it would be suitable shortly after significant rain ie at flood flows. At low flows, there are many rock hazards including sieves and few chutes to choose from. Flows are reliable in summer months with only post-heavy rain events to avoid. The Upper Wanganui is popular with visiting kayakers who do not want or cannot kayak the hardest rivers. The Lower Wanganui is characterised by long multi-move g3 rapids, flat sections and one long g4 rapid. It has more volume	

	from the Lambert and lower gradient than the Upper. It can be kayaked at a wide range of flows from very low up, although it is unlikely to be kayaked at very high flows.
Description of water landscape (inc. water quality and clarity, river bed features)	Water in the Upper Wanganui is typically blue and milky from glacial flour. Water is clean. The river bed is usually narrow. In the Upper, there is a lot of white water which, with all the exposed rock in the river bed, usually makes for a very bright and stark landscape. The Upper Wanganui is unusual on the West Coast for its bedrock rapids, made up of ledges of schist in shallow gorges. Boulders move through these rapids too and affect them from flood to flood. Boulders from slips still make up most rapids. The Lower Wanganui is usually a greyer blue due to increased glacial flour from the Lambert river. However, in long spells of finer weather it is bright blue. The Lower Wanganui has a much wider river bed and is much less interrupted by boulders. The longer rapids though can be sustained whitewater for over 100m.
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	The Upper Wanganui has amazing upstream views of glacier-topped mountains. The valley is open with no deep gorges so the valley can be seen at all times: it is steep sided and covered in native vegetation. Slips are frequent, exposing rock. There are sections of shallow gorges with exposed bedrock. The steepness of the upper section provides striking downstream valley views. Where the Wanganui opens out at the confluence with the Lambert, there are wide valley views up both rivers to alpine mountains. Downstream of this point, the valley is narrower and views more restricted.
Description of degree of wilderness feel (inc. presence or absence of human influence, remoteness)	The upstream part of the Upper Wanganui has a high wilderness feel due to its long flight in and high mountain feel (exposed rock and glacier views). Although a trail is present, it is not visible and no other signs of humans are visible. Where the trail comes close to the river, orange trail markers can be seen and at Poker Bluff a ladder (for trampers) is visible from the river. Shortly afterwards, near the Lambert confluence, a cableway can be seen. The Lower Wanganui has a moderate wilderness feel in that it has a shorter flight but it still has mountain views, native vegetation cover and steep valley sides. Closer to the road, a quarry becomes visible and from here on downstream, wilderness feel is low.
Notable flora and fauna (eg blue duck)	None noted on this trip.
Description of overall character of river	The Wanganui's split personality – steep, low volume upper and gentler, bigger lower – makes it particularly appealing to groups of kayakers with mixed abilities. The Wanganui has great scenery and continuous whitewater, in the Upper section especially. Its open sides (rather than gorges) makes it less

	intimidating to kayak. Hotpools appeal to groups with time. The rapids are very good but don't contain the iconic qualities of some other rivers in this region, making the Wanganui less of a destination for kayaking than its neighbouring Perth/Whataroa.
Distinctive features of river trip (key words)	Continuous rapids; hotpools; bedrock; grade 5; grade 3; glacier views
Info for land managers	Kayakers and trampers share this valley with no conflict that I've seen. Kayakers I've talked to are not offended by the trail markers and ladder/cableway. Helo landings vary with floods and are unnoticeable. Helo take-off is difficult currently following erosion but this will vary. Kayakers really don't need anything other than helo access.
Info for rescue managers	Due to the often relatively lower ability of groups accessing the Wanganui, both Upper and Lower, and the presence of sieves in the Upper, it is not unlikely that there will be a serious accident at some stage. There is little we can do to prevent this or rescue from it. As the tramping trail is so close to the river, it may be possible that a tramper falls in but this is unlikely as the trail does now cross the river unless side creeks are high and wash a person into the main river. A person in the Upper Wanganui become entrapped in undercuts or sieves, particularly at low flows, but would wash quickly downstream at high flows. In the lower Wanganui, at higher flows, it is unlikely that a body would snag much and I would expect it to travel quite quickly. A kayak team could search the Wanganui Upper and Lower at most flows. They would need to portage much of the Upper to be safe as it will be g5 at higher flows. This is easy and to be expected. Search under the water surface is hindered at all flows by the milkiness of the water. Sieves and undercuts are often hard to access and if it is suspected that a body is entrapped it would be necessary to search at low flow. A good kayak team of 4 could usefully scan the river banks for a live person in 6 hours from the Upper, although active searching would extend this time considerably. Due to absence of deep gorges, the river could mostly be scanned from helo. An experienced kayaker observer would be useful due to the many potential entrapment locations.

Put in

Upper rapids, low flow

By confluence with Lambert

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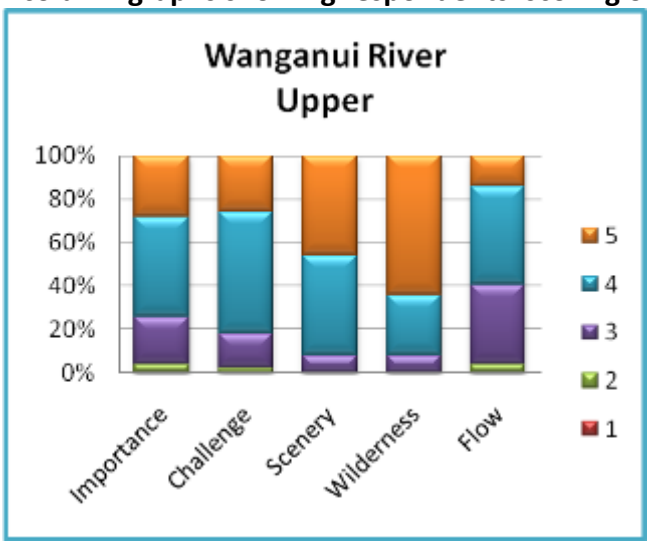

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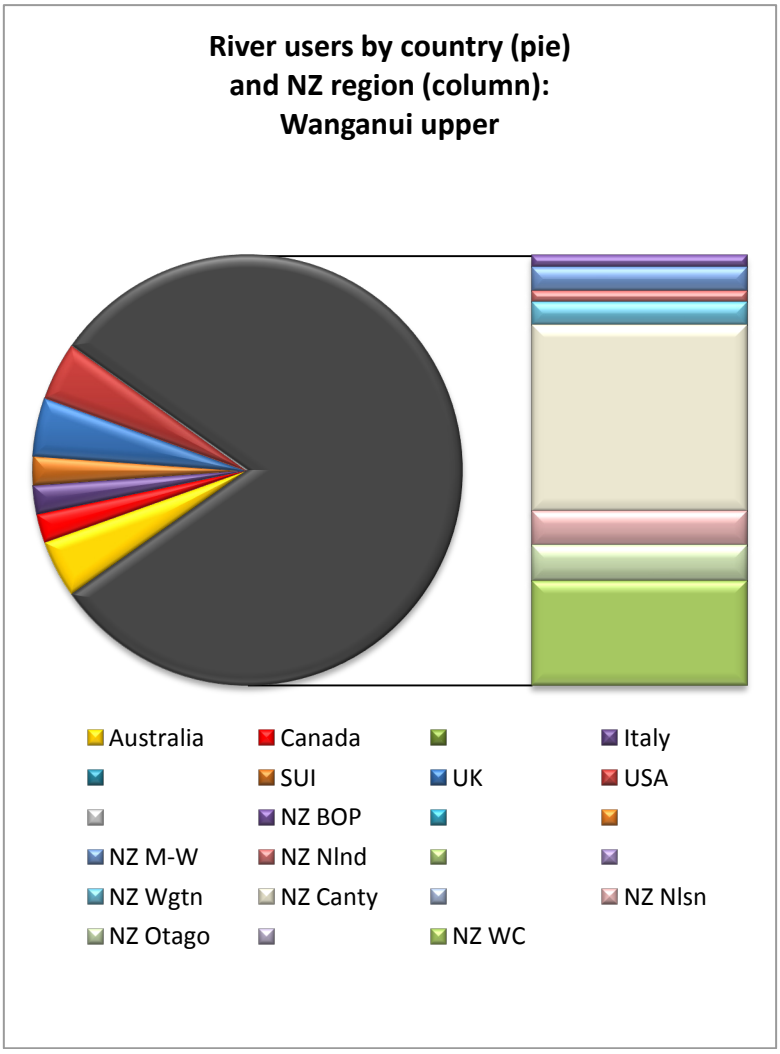

Numbers	
Total number trips recorded	111
Number of respondents for this section	47
Mean number trips per person	2.4

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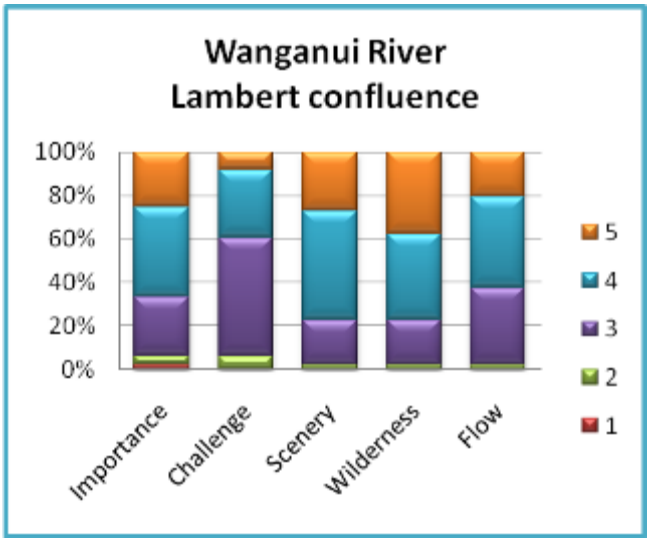

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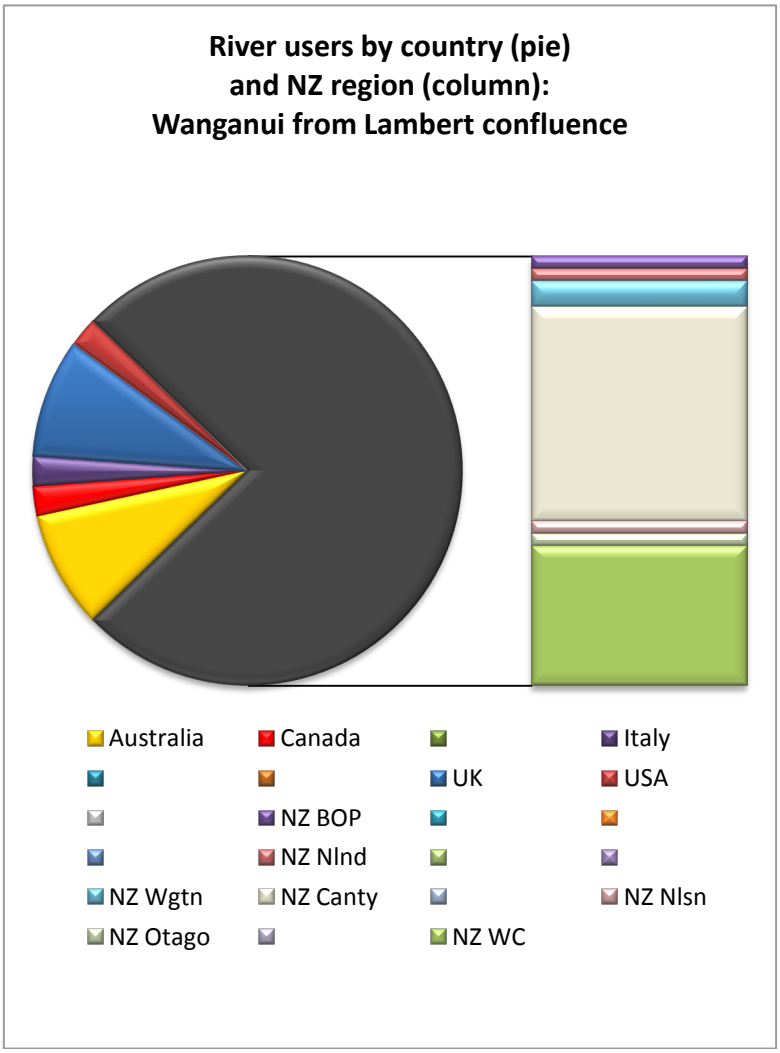

Numbers	
Total number trips recorded	139
Number of respondents for this section	46
Mean number trips per person	3.0

River report form		
Andy ENGLAND	Royal Society of New Zealand Awarded Teacher Fellowship	Department of Conservation Lincoln University
River (section)	Whitcombe from Cropp (just upstream of Cropp)	
Locations (latitude and longitude of put in and take out)	Put in (can vary depending on heli landing)	Take out
	This trip, approx: 43°04'59.12"S 171°01'22.58"E On this occasion we put in at about 391281 on river left where the river turns right. 'Normal' Cropp put-in: 393297 43°04'01.13"S 171°01'36.06"E	This is the heli take-off and landing as opposed to where we take out from river. It is by the cableway.42°59'09.79"S 170°59'48.30"E 366386
Access description	Helicopter (Kokatahi helicopters) from end of 4wd road, location above. Actual landing by river varies as the river frequently floods and washes sites away. No-one walks in to this section.	
Date kayaked (this report)	02-02-2010	
Group members (on this trip)	Colin Biggin (Scotland) Andy England (NZ) Mary Harrop (US) Sarah Fawcett (NZ) Pete Kyriakoudis (NZ) James McLafferty (NZ)	
Description of whitewater kayaking technicality (inc. grade and style of kayaking, volume on day, flow requirements and estimate of reliability)	Grade 4 with some g.3 and some g.5 to end of Collier Gorge which contains biggest and most dangerous rapids of this section, then g.3 easing to g.2 and flat to take-out. Low flow for kayakers on the day paddled: handles quite high flows but gets pushy. Good kayaking even at very low flows. Very reliable flows except after heavy rains (rises very quickly). Whitcombe offers river paddling with relatively high volume (for West Coast) particularly at higher flows; fairly continuous gradient and long rapids, separated by short flatter sections. There are few single-move steep rapids.	
Description of water landscape (inc. water quality and clarity, river bed features)	On this day, water was turquoise blue and quite clear, but not completely clear as quite milky. Clean. Whitewater frequently intense and powerful in appearance; long rapids. Large, bleached/scoured boulders separated by blue river channels with whitewater define the river landscape, occasionally obscuring view of downstream requiring navigation. Significant river bed changes, due to slips from sides, is a notable character of the Whitcombe.	
Description of valley landscape from river (inc. gorges and views from river, types of vegetation)	Valley generally open, steep sided, high. Gorges shallow with lots of slips. Views upstream from higher up river often show snowy high mountains. Valley sides covered in native vegetation. Some waterfalls and tributaries.	
Description of degree of	Although valley feels and looks wild, orange trail markers are	

wilderness feel (inc. presence or absence of human influence, remoteness)	visible from time to time as well as a hut visible from river and a swingbridge. Lower, wider gorges and the trail make it clear that walking out would be possible although injury in this river would be serious due to distance from road end.
Notable flora and fauna (eg blue duck)	None noted on this day
Description of overall character of river	The Whitcombe from Cropp is a reliable whitewater day challenge with lots of action and easy portages of harder rapids (if chosen). It is suitable for a wide range of 'advanced' whitewater kayakers. River scenery is characterised by large boulders and interesting channels. It is set in dramatic valley scenery with native vegetation. There are few signs of humans but these do include a trail, signs, huts and bridges/cableways.
Distinctive features of river trip (key words)	Rapids; whitewater; day trip; reliable flow; open valley; trail; boulders; landslides
Info for land managers	Helicopter access essential. Exact landing site couldn't be defined usefully as it needs to change. Access to heli site at end of 4wd road (through locked gate) is useful as it is a long flight in from Hoki Gorge and a long flat paddle out. This is a busy section with most visitors kayaking it at least once. Nothing else really needed for kayakers.
Info for rescue managers	Count as g5 upstream of Collier Gorge but actual g5 easily portaged. Jetboats advantageous as far upstream as Hokitika/Whitcombe confluence. Easy heli access to most places; river all visible from air. Few trees to snag floating bodies but frequent sieves/undercuts. Would expect a body to travel quickly, especially at high flows. Many rapids too large to search meaningfully. A good kayak search team should be able to search this river section for a conscious target in 8 hours. Detailed searches may take 2 days or be impossible due to undercuts and sieves. Rapid response to rain and heavy falls commonplace. Difficulty increases with flow.

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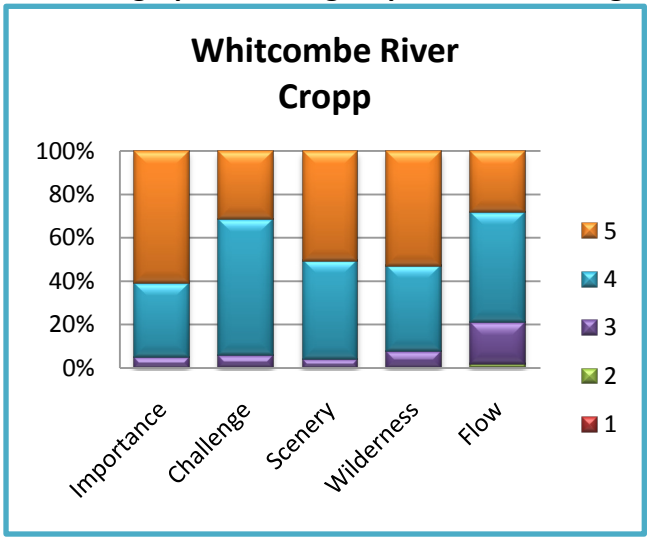

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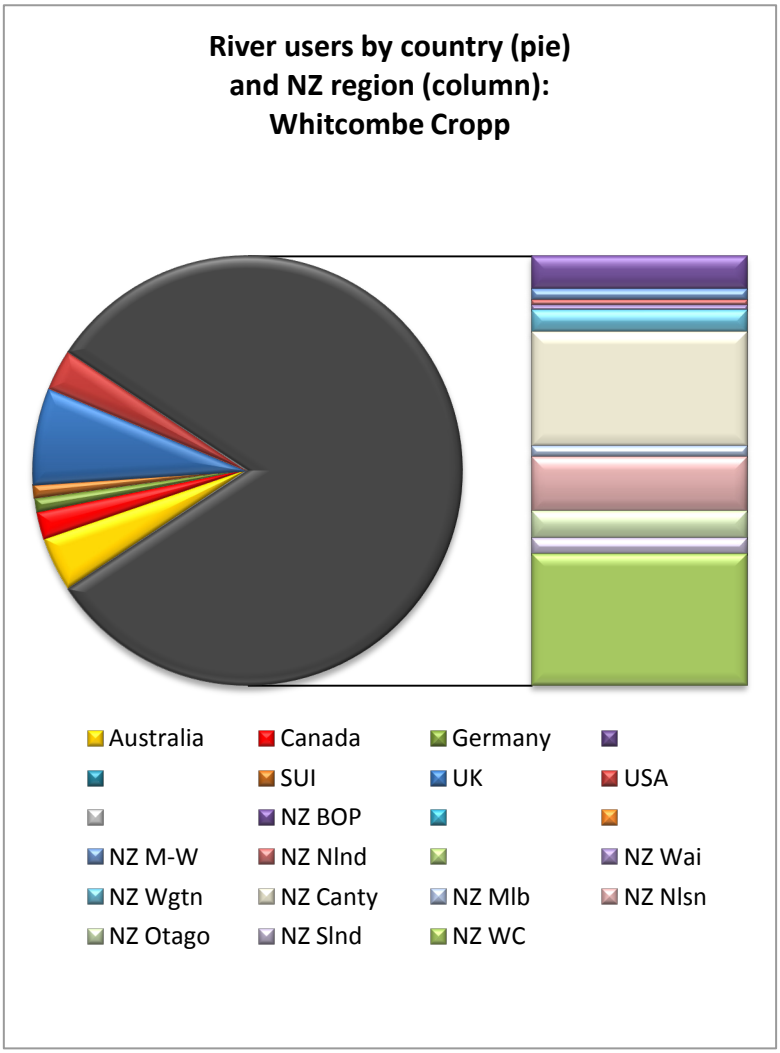

Numbers	
Total number trips recorded	524
Number of respondents for this section	100
Mean number trips per person	5.2

Notes

The author at work in 2010, Perth River
Photo Kevin England

Andy England was a 2010 Awarded Teacher Fellow of the Royal Society of New Zealand.

The New Zealand Sciences Mathematics and Technology Teacher Fellowship Scheme is funded by the New Zealand Government and administered by the Royal Society of New Zealand

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